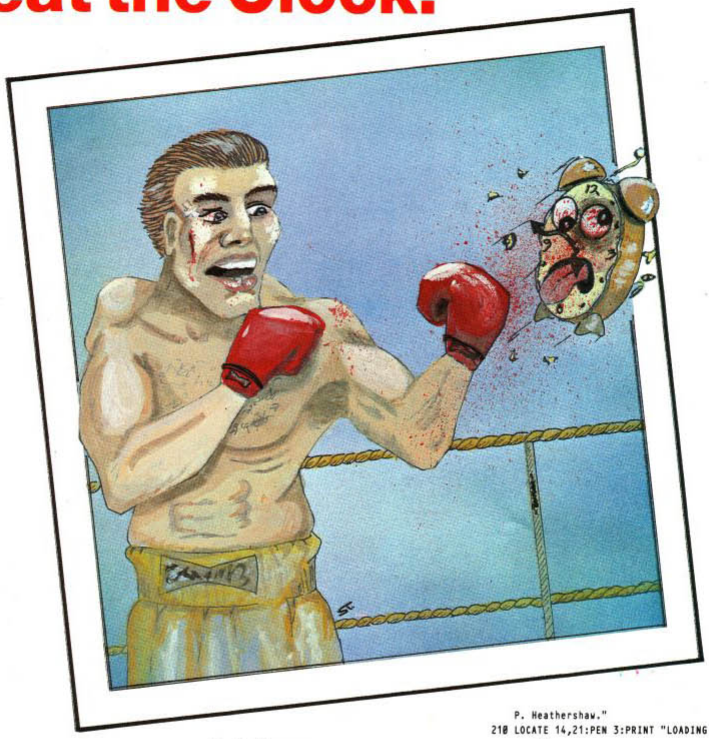
Beat the Clock.



As promised in an early edition of CPC464 User here is the listing of the prize-winning 'Beat the Clock' program.

The game is a cross between a word game and a race against time. You are given a set of letters and have to make as many words as possible within the given time. Full instructions are included in the program. The game turns the screen black whilst it sets some things up so don't be alarmed. It would be impossible for the program to know all the words in the English language, even if it did it would be a pain to have to type them all in to the program. This means that you have to be honest and only offer it valid words. No cheating now!

Loader Program.

Save this on the tape before the main program.

```
10 REM "AMSOFT" LOGO
20 DEFINT a-z:SPEED INK 40,10
30 title$="Beat the Clock"
40 INK 0,0:INK 1,24,0:INK 2,0:INK 3,0
50 PAPER 0:PEN 1:BORDER 0,0:MODE 1
60 LOCATE 15,21:PRINT "Please Wait..";
70 PLOT 160,290,2:GOSUB 230:RESTORE
80 PLOT 158,294,3:GOSUB 230
90 chars=LEN(title$):pixels=chars*8
100 x=(639-chars*32)/2
110 LOCATE 1,1:PEN 3:PRINT title$;:PEN 1
120 tx=x:y=220:y2=398
130 FOR f=1 TO 8:x2=0:FOR g=1 TO pixels
140  IF TEST(x2,y2)=3 THEN PLOT x,y,2:PL
     OT x,y-2:PLOT x+2,y:PLOT x+2,y-2
150  x=x+4:x2=x2+2
160 NEXT g:y=y-4:y2=y2-2:x=tx:NEXT f
170 LOCATE 1,1:PRINT SPACE$(chars)
180 INK 1,6,6:INK 2,2,2:INK 3,19,19
190 LOCATE 17,10:PRINT "PRESENTS";
200 LOCATE 9,16:PRINT " by
    P. Heathershaw."
210 LOCATE 14,21:PEN 3:PRINT "LOADING ..
    ....";
220 GOTO 560
230 READ t,x,y:IF t=0 THEN RETURN
240 IF t=1 THEN DRAWR x,y ELSE MOVER x,y
250 GOTO 230
260 REM "A"
270 DATA 1,-41,0,2,0,2,1,41,0,2,2,2,1,-4
    1,0,2,0,2,1,41,0,2,-3,2
280 DATA 1,34,70,2,2,0,1,-34,-70,2,2,0,1
    ,34,70,2,2,0,1,-34,-70,2,30,72
290 DATA 1,47,0,2,0,2,1,-47,0,2,2,2,1,47
    ,0,2,0,2,1,-47,0,2,37,-8
300 DATA 1,-34,-70,2,2,0,1,34,70,2,2,0,1
    ,-34,-70,2,2,0,1,34,70,2,-57,-38
310 DATA 1,32,0,2,0,2,1,-32,0,2,2,2,1,32
    ,0,2,0,2,1,-32,0,2,12,-46
320 REM "M"
330 DATA 1,30,0,2,0,2,1,-30,0,2,2,2,1,30
    ,0,2,0,2,1,-30,0,2,25,2
340 DATA 1,18,38,2,2,0,1,-18,-38,2,2,0,1
    ,18,38,2,2,0,1,-18,-38,2,12,24
350 DATA 1,0,-32,2,2,0,1,0,36,2,2,4,1,0,
    -40,2,2,0,1,0,44,2,2,-36
360 DATA 1,39,39,2,0,-2,1,-39,-39,2,0,-2
    ,1,37,37,2,0,-2,1,-37,-37,2,20,6
370 DATA 1,18,38,2,2,0,1,-18,-38,2,2,0,1
```

```
    ,18,38,2,2,8,1,-18,-38,2,-10,-8
380 REM "S"
390 DATA 1,57,0,2,0,2,1,-57,0,2,2,2,1,57
    ,0,2,0,2,1,-57,0,2,51,2
400 DATA 1,7,0,2,0,2,1,-7,0,2,2,2,1,7,0,
    2,0,2,1,-7,0,2,2,2,1,7,0,2,0,2,1,-7,
    0,2,9,2
410 DATA 1,-29,0,2,0,2,1,29,0,2,2,2,1,-2
    9,0,2,0,2,1,29,0,2,-27,2
420 DATA 1,7,0,2,0,2,1,-7,0,2,2,2,1,7,0,
    2,0,2,1,-7,0,2,2,2,1,7,0,2,0,2,1,-7,
    0,2,2,2
430 DATA 1,29,0,2,0,2,1,-29,0,2,2,2,1,29
    ,0,2,0,2,1,-29,0,2,46,-8
440 REM "O"
450 DATA 1,-15,-30,2,2,0,1,15,30,2,2,0,1
    ,-15,-30,2,2,0,1,15,30,2,-25,-38
460 DATA 1,29,0,2,0,2,1,-29,0,2,2,2,1,29
    ,0,2,0,2,1,-29,0,2,39,32
470 DATA 1,-15,-30,2,2,0,1,15,30,2,2,0,1
    ,-15,-30,2,2,0,1,15,30,2,-27,2
480 REM "F"
490 DATA 1,117,0,2,0,2,1,-117,0,2,2,2,1,
    117,0,2,0,2,1,-117,0,2,63,32
500 DATA 1,-39,-78,2,2,0,1,39,78,2,2,0,1
    ,-39,-78,2,2,0,1,39,78,2,-4,2
510 DATA 1,29,0,2,0,2,1,-29,0,2,2,2,1,29
    ,0,2,0,2,1,-29,0,2,46,0
520 REM "T"
530 DATA 1,-39,-78,2,2,0,1,39,78,2,2,0,1
    ,-39,-78,2,2,0,1,39,78,2,-49,-86
540 DATA 1,69,0,2,0,2,1,-69,0,2,2,2,1,69
    ,0,2,0,2,1,-69,0
550 DATA 0,0,0
560 RUN "!clock2.lis"
```

This is the main program. Type it in and SAVE '!clock2.lis'

```
10 GOTO 160
20 IF clk=366 THEN RETURN
30 ORIGIN 450,130
40 ocx1=SIN(clk-20)*20:ocy1=COS(clk-20)*
   20
50 ocx2=SIN(clk)*50:ocy2=COS(clk)*50
60 ocx3=SIN(clk+20)*20:ocy3=COS(clk+20)*
   20
70 CALL &BD19
80 DRAW cx1,cy1,2:DRAW cx2,cy2:DRAW cx3,
   cy3:DRAW 0,0
90 DRAW ocx1,ocy1,1:DRAW ocx2,ocy2:DRAW
   ocx3,ocy3:DRAW 0,0
100 IF tk=1 THEN tk=0:SOUND 4,100,1,7,,2
    ELSE tk=1:SOUND 4,70,1,7,,,2
110 cx1=ocx1:cy1=ocy1:cx2=ocx2:cy2=ocy2:
    cx3=ocx3:cy3=ocy3
120 clk=clk+6
130 PLOT 600,400,2
140 ORIGIN ox,oy
150 RETURN
160 DEG:MODE 1:INK 0,0:PAPER 0:INK 1,0:I
    NK 2,0:INK 3,0:PEN 1:BORDER 0
170 DEFINT A-Z
180 ORIGIN 0,0
190 TAG:PLOT 400,600,2
200 PLOT 200,397:PRINT"BEAT the CLOCK";
210 MOVE 200,381:PRINT STRING$(14,208);
220 TAGOFF
230 PRINT:PRINT:PRINT:PRINT" A game of s
    kill and fun for all the   "CHR$(10)
    "family. 1 to 6 players with progres
    sing"CHR$(10)"difficulty as the game
     proceeds."
240 PRINT:PRINT" Design a crossword usin
    g the 13 random"CHR$(10)" letters, b
    ut";:PEN 3:PRINT"HURRY";:PEN 1:PRINT
    ", your time is running"CHR$(10)"out
    ."
241 STOP
250 ORIGIN 320,86
260 GOSUB 460
270 ORIGIN 0,0
280 FOR i=18 TO 170 STEP 4
290 MOVE 0,i:DRAW 240,i,2
300 FOR j=2 TO 40 STEP 2:IF TEST(250+j,i
    )<>0 THEN 320
310 PLOT 240+j,i,2:NEXT
320 NEXT
330 FOR i=18 TO 170 STEP 4
340 MOVE 639,i:DRAW 420,i,1
350 FOR j=418 TO 380 STEP -2:IF TEST(j-1
    0,i)<>0 THEN 370
360 PLOT j,i,1:NEXT
370 NEXT
380 MOVE 0,174:DRAW 639,174,3
390 MOVE 0,0:DRAW 0,399:DRAW 639,399:DRA
    W 639,0:DRAW 0,0
400 INK 1,0:INK 2,26:INK 3,13:INK 0,14:B
    ORDER 14
410 ox=320:oy=86
420 ORIGIN 320,86
430 MOVE 0,0
440 ' FOR i=1  TO 61:GOSUB 40:FOR dd=1 T
    O 100:NEXT:NEXT
450 GOTO 810
460 FOR I=0 TO 8:MOVE -(40+I),-(56-I)
470 DRAW -(50+I),-66,2:NEXT
480 MOVE -38,54:FOR i=0 TO 6 STEP 2:DRAW
    -(38+i),64,2:MOVE -(40+i),54:NEXT
490 FOR I=1 TO 180 STEP 2
500 X=SIN(I)*66:Y=COS(I)*66
510 PLOT X,Y,14
520 DRAWR 20,0,1:PLOTR 2,0,2:MOVE X,Y
530 X=SIN(-I)*66:Y=COS(-I)*66
540 DRAW X,Y,2:PLOTR -2,0,1
550 NEXT
560 PLOT -64,22,1:PLOTR 2,0:DRAWR 126,0,
    2:DRAWR 18,0,1:PLOTR 2,0,2
570 PLOT -68,4,1:PLOTR 2,0: DRAWR 134,0,
    2:DRAWR 18,0,1:PLOTR 2,0,2
580 PLOT -68,-4,1:PLOTR 2,0:DRAWR 134,0,
    2:DRAWR 18,0,1:PLOTR 2,0,2
590 PLOT -64,-22,1:PLOTR 2,0:DRAWR 126,0
    ,2:DRAWR 18,0,1:PLOTR 2,0,2
600 FOR I=0 TO 8
610 MOVE 46+I,-56+I
620 DRAW 56+I,-66,2
630 NEXT
640 FOR i=0 TO 360 STEP 30
650 x=SIN(i)*54:y=COS(i)*54
660 PLOT x,y,1
670 x=SIN(i)*62:y=COS(i)*62
680 DRAW x,y
690 NEXT
700 MOVE 45,54
710 FOR i=0 TO 6 STEP 2:DRAW 45+i,64,2:M
    OVE 47+i,54:NEXT
720 FOR i=1 TO 180 STEP 8
730 x=SIN(i)*10:y=COS(i)*10
740 MOVE 42,74:PLOTR x,y:DRAWR 6,0
750 x=SIN(i+180)*10:y=COS(i+180)*10
760 MOVE -38,74:PLOTR x,y:DRAWR -6,0
770 NEXT
780 FOR i=0 TO 4
790 MOVE 46,80+i:DRAWR -88,0:NEXT
800 RETURN
810 GOTO 960
820 IF clk=366 THEN RETURN
830 ORIGIN 450,130
840 ocx1=SIN(clk-20)*20:ocy1=COS(clk-20)
    *20
850 ocx2=SIN(clk)*50:ocy2=COS(clk)*50
860 ocx3=SIN(clk+20)*20:ocy3=COS(clk+20)
    *20
870 CALL &BD19
880 DRAW cx1,cy1,2:DRAW cx2,cy2:DRAW cx3
    ,cy3:DRAW 0,0
890 DRAW ocx1,ocy1,1:DRAW ocx2,ocy2:DRAW
    ocx3,ocy3:DRAW 0,0
900 IF tk=1 THEN tk=0:SOUND 4,100,1,7,,2
    ELSE tk=1:SOUND 4,70,1,7,,,2
910 cx1=ocx1:cy1=ocy1:cx2=ocx2:cy2=ocy2:
    cx3=ocx3:cy3=ocy3
920 clk=clk+6
930 PLOT 600,400,2
940 ORIGIN ox,oy
950 RETURN
960 DEFINT a-z
970 DEFREAL C,O
980 EVERY 50,2 GOSUB 840
990 ox=320:oy=86
1000 ORIGIN 320,86
1010 MOVE 0,0
1020 PAPER 1:LOCATE 15,25:PRINT"
         ":PAPER 0
1030 'FOR i=1  TO 61:GOSUB 40:FOR dd=1 T
     O 100:NEXT:NEXT
1040 LOCATE 2,20:PRINT CHR$(22);"1";:PEN
     3:PRINT"I=instructions
     S=start";CHR$(22);"0"
1050 INK 3,20,10
1060 a$=INKEY$:IF a$="" THEN 1060
1065 IF a$="s" OR a$="S" THEN SOUND 1,20
     ,20,7:GOTO 1090
1070 IF a$="i" OR a$="I" THEN SOUND 1,20
     ,20,7:GOTO 5100
1080 GOTO 1060
1090 BORDER 0:INK 3,25:WINDOW 1,40,1,14:
     PAPER 1:CLS:PAPER 0
1100 DI:ORIGIN 0,0:FOR i=78 TO 100 STEP
     4:MOVE 10,i:DRAW 240,i,2:MOVE 10,i+
     2:DRAW 240,i+2,0:MOVE 420,i:DRAW 60
     0,i,1:MOVE 420,i+2:DRAW 600,i+2,0:N
     EXT:ORIGIN 320,86:EI
1110 LOCATE 1,1:PAPER 1:PEN 2:PRINT TAB(
     13);"BEAT the CLOCK":PRINT TAB(13);
     STRING$(14,208)
1120 PRINT:PRINT" Number of players 1 to
      6 ";
1130 a$=INKEY$:IF a$="" THEN 1130
1135 IF a$="." THEN 1130
1140 npl=VAL(a$):IF npl<1 OR npl>6 THEN
     1130
1150 PRINT a$
1160 LOCATE 1,5
1170 FOR i=5 TO 6-npl STEP -1
1180 LOCATE 1,5+(5-i):PRINT"Player ";6-i
     ;
1190 '
1200 a$=INKEY$: IF a$="" THEN 1200
1210 IF a$=CHR$(127) THEN 1270
1220 IF a$=CHR$(13) THEN 1300
1230 a$=LOWER$(a$)
1240 pl$(i)=pl$(i)+a$
1250 PRINT a$;
1260 GOTO 1290
1270 PRINT CHR$(8)" ";CHR$(8);
1280 pl$(i)=LEFT$(pl$(i),LEN(pl$(i))-1)
1290 GOTO 1190
1300 NEXT
1310 PRINT:PRINT" Target score (500 Max.
     ) ";
1320 DL=0:FR=0:GOSUB  1350:A=VAL(A$):IF
     A>5 THEN 1320 ELSE  PRINT A$;:FR=1
1330 DL=0:GOSUB  1350:IF DL=1 THEN 1320
     ELSE B=VAL(A$):PRINT A$;
1340 GOSUB  1350:IF DL=1 THEN 1330 ELSE
     C=VAL(A$):PRINT A$;
1343 A$=INKEY$:IF A$="" THEN 1343
1345  IF A$=CHR$(13) THEN 1353
1346 IF A$=CHR$(127) THEN PRINT CHR$(8)"
      ";CHR$(8);:GOTO 1340
1347 GOTO 1343
1350 A$=INKEY$:IF A$="" THEN 1350
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```
1351 IF A$=CHR$(127) AND FR>0  THEN PRIN
     Tchr$(8)" ";CHR$(8);:DL=1:RETURN
1352 IF ASC(A$)<48 OR ASC(A$)>57 THEN 13
     50 ELSE RETURN
1353 TRG=A*100+B*10+C
1354 IF TRG>500 THEN PRINT CHR$(8);CHR$(
     8);CHR$(8);"    ";CHR$(8);CHR$(8);C
     HR$(8);CHR$(8);:GOTO 1320
1360 EVERY 50,2 GOSUB 5020
1370 MODE 1:INK 0,0:INK 1,0:INK 2,0:INK
     3,0
1380 DATA HNETRO,ADJENR,VUOCNR,IRDETS,WA
     EDVT,PMGUIE,YOPUMW,SAXBEY,GAIFLQ,HA
     TESL,OSBUMN,ZECFAI,ELORTI
1390 DATA 321221,136122,431422,223122,41
     1342,434321,414334,218414,412428,31
     2122,124332,914412,121222
1400 DATA 1,4,4,3,1,4,4,3,2,6,5,2,3,2,1,
     4,8,2,2,2,3,4,4,8,4,9
1410 ENV 1,1,15,15,15,-1,3
1420 ENT 1,0,0,25,12,-1,2
1430 DIM L$(13),V$(13),G$(14,14),V(26)
1440 FOR I=0 TO 14:FOR J=0 TO 12:G$(I,J)
     =" ":NEXT:NEXT
1450 PAPER 0:PEN 1
1460 FOR I=1 TO 13:READ L$(I):NEXT
1470 FOR I=1 TO 13:READ V$(I):NEXT
1480 FOR I=1 TO 26:READ V(I):NEXT
1490 PRINT"  BEAT THE CLOCK      ";:PEN
     2:PRINT"Players     Score":PEN 1

1500 DEG:pi=5
1510 TIM=100
1520 GOSUB 3810
1530 GOSUB 3710
1540 GOSUB 3340
1550 GOSUB 3220
1560 EVERY 0,2 GOSUB 5020
1570 INK 0,14:SOUND 1,20,50,0,1:FOR I=1
     TO 1000:NEXT
1580 INK 1,0:SOUND 1,20,50,0,1:FOR I=1 T
     O 1000:NEXT
1590 INK 2,26:SOUND 1,20,50,0,1:FOR I=1
     TO 1000:NEXT
1600 INK 3,13:SOUND 1,20,50,0,1:FOR I=1
     TO 1000:NEXT
1610 BORDER 14:SOUND 1,20,50,0,1:FOR I=1
      TO 1000:NEXT
1620 TAG:PLOT 600,400,2:MOVE 32,100:PRIN
     T UPPER$(pl$(5));
1630 CLK=0:GOSUB 820
1640 TAGOFF:LOCATE 1,20:PEN 1:PRINT" SPA
     CEBAR to PLAY":PEN 2
1650 IF INKEY$<>" " THEN 1650
1660 LOCATE 1,20:PRINT"
     ":TAG
1670 GOSUB 3060
1680 clk=0:ORIGIN 108,28:ox=108:oy=28
1690 TAGOFF
1700 EVERY TIM,1 GOSUB 820
1710 s$="":pp=0
1720 ORIGIN 108,28:ox=108:oy=28
1730 PEN 1
1740 LOCATE 1,20:PRINT" ENTER":PRINT" WO
     RD->"
1750 PEN 2
1760 A$=INKEY$:IF clk=366 THEN 3930 ELSE
      IF A$="" THEN 1760
1770 IF A$="Q" THEN CLK=360:GOTO 1760
1780 IF a$=" " THEN LOCATE pp+8,21:PRINT
     "£":pp=pp+1:s$=s$+" ":GOTO 1760
1790 IF a$=CHR$(16) AND s$="" THEN GOSUB
      2840:GOTO 1720
1800 IF A$=CHR$(13) AND S$>"" THEN SOUND
     1,40,30,7:GOTO 2120
1810 IF A$=CHR$(127) AND pp>0 THEN GOSUB
      1980:SOUND 1,400,20,7:GOTO 1760
1820 A$=UPPER$(A$)
1830 IF ASC(A$)<65 OR ASC(A$)>90 THEN 17
     60
1840 IF INSTR(WL$,A$)=0 THEN 1760
1850 LOCATE 8+PP,21:PRINT A$
1860 s$=s$+a$
1870 pp=pp+1
1880 p=INSTR(wl$,a$)
1890 MID$(wl$,p,1)=" "
1900 DI
1910 PLOT 600,400,1
1920 SOUND 1,40,30,0,1
1930 TAG:MOVE p*38,0:PRINT a$;
1940 MOVE p*38,26:PRINT MID$(v$,p,1);
1950 TAGOFF
1960 EI
1970 GOTO 1760
1980 TAGOFF:pp=pp-1:LOCATE pp+8,21:PRINT
     " ":LOCATE pp+8,21
1990 a$=RIGHT$(s$,1)
2000 FOR i=1 TO 13
2010 IF MID$(w$,i,1)=a$ AND MID$(wl$,i,1
     )=" " THEN MID$(wl$,i,1)=a$:GOTO 20
     30
2020 NEXT
2030 PLOT 600,400,2
2040 DI
2050 TAG
2060 MOVE i*38,0:PRINT a$;
2070 MOVE i*38,26:PRINT MID$(v$,i,1);
2080 s$=MID$(s$,1,LEN(s$)-1)
2090 TAGOFF
2100 EI
2110 RETURN
2120 '
2130 x=0:y=0
2140 PEN 1
2150 LOCATE 1,20:PEN 1:PRINT"POSITION":P
     RINT"CURSOR"
2160 IF SBCL=1 THEN LOCATE 10,20:PEN 2:P
     RINT"D";:PEN 1:PRINT"=DELETE":LOCAT
     E 10,21:PEN 2:PRINT"Q";:PEN 1:PRINT
     "=EXIT"
2170 ORIGIN 16,128
2180 ox=16:oy=128
2190 PLOT 600,400,2
2200 TAG
2210 DI:MOVE X*22,Y*22
2220 IF CH=1 THEN CH=0:PRINT G$(X+1,Y+1)
     ; ELSE CH=1:PRINT CHR$(233);
2230 EI
2240 '
2250 FOR I=1 TO 40
2260 A$=INKEY$
2270 IF A$<>"" THEN 2310
2280 IF clk=366 AND ch=0 THEN 3930
2290 NEXT
2300 GOTO 2210
2310 SOUND 1,300,2,5:DI:MOVE X*22,Y*22:P
     RINT G$(X+1,Y+1);:EI
2320 IF A$=CHR$(13) AND sbcl=0 THEN SOUN
     D 1,20,7:GOTO 2400
2330 IF (A$="D" OR A$="d") AND sbcl=1 TH
     EN SOUND 1,100,20,7:RETURN
2340 IF a$="Q" AND sbcl=1 THEN RETURN
2350 IF A$=CHR$(243) THEN X=X+1:IF X>11
     THEN X=0:GOTO 2210
2360 IF A$=CHR$(242) THEN X=X-1:IF X<0 T
     HEN X=11:GOTO 2210
2370 IF A$=CHR$(241) THEN Y=Y-1:IF Y<0 T
     HEN Y=11:GOTO 2210
2380 IF A$=CHR$(240) THEN Y=Y+1:IF Y>11
     THEN Y=0:GOTO 2210
2390 GOTO 2210
2400 TAGOFF:LOCATE 1,20:PEN 2:PRINT"A";:
     PEN 1:PRINT"cross  "
2410 PEN 2:PRINT"D":PEN 1:PRINT"own  "
2420 a$=INKEY$
2430 IF clk=366 THEN 3930
2440 a$=UPPER$(a$)
2450 IF a$<>"A" AND a$<>"D" THEN 2420
2460 SOUND 1,30,20,7
2470 x1=x+1:y1=y+1:ok=0
2480 FOR i=1 TO LEN(s$)
2490 IF MID$(s$,i,1)=" " AND g$(x1,y1)="
     " THEN GOTO 2600
2500 IF MID$(s$,i,1)<>" " AND g$(x1,y1)<
     >" " THEN GOTO 2600
2510 IF a$="A" THEN IF g$(x1,y1-1)<>" "
     OR g$(x1,y1+1)<>" " THEN ok=1
2520 IF a$="D" THEN IF g$(x1-1,y1)<>" "
     OR g$(x1+1,y1)<>" " THEN ok=1
2530 IF a$="A" THEN x1=x1+1:IF x1>13 THE
     N 2600
2540 IF a$="D" THEN y1=y1-1:IF y1<0 THEN
      2600
2550 NEXT
2560 IF A$="A" THEN IF G$(X,Y+1)<>" " OR
     G$(X+LEN(S$)+1,Y+1)<>" " THEN OK=1
2570 IF A$="D" THEN IF G$(X+1,Y+2)<>" "
     OR G$(X+1,Y-(LEN(S$)-1))<>" " THEN
     OK=1
2580 IF ok=1 THEN 2680
2590 IF ok=0 AND ft=0 THEN 2680
2600 '
2610 l=LEN(s$)
2620 FOR d=1 TO L
2630 TAGOFF:ORIGIN 108,28
2640 ox=108:oy=28
2650 GOSUB 1980
2660 NEXT
2670 GOTO 1690
2680 PLOT 600,400,2
2690 TAG
2700 DI
2710 x1=x+1:y1=y+1
2720 FOR i=1 TO LEN(s$)
2730 IF MID$(s$,i,1)=" " THEN 2760
2740 MOVE x*22,y*22:PRINT MID$(s$,i,1);
2750 g$(x+1,y+1)=MID$(s$,i,1)
2760 IF a$="A" THEN x=x+1 ELSE y=y-1
2770 NEXT
2780 EI
2790 TAGOFF:LOCATE 8,21:PRINT"
     "
2800 ft=1
2810 ORIGIN 108,28
2820 ox=108:oy=28
2830 GOTO 1710
2840 '
2850 DI:PLOT 600,400,2:TAGOFF
2860 sbcl=1:GOSUB 2150:sbcl=0
2870 IF a$="Q" THEN 3010
2880 TAG
2890 IF g$(x+1,y+1)=" " THEN 2850
2900 MOVE x*22,y*22:PRINT" ";
2910 ORIGIN 108,28
2920 FOR i=1 TO 13
2930 IF MID$(w$,i,1)=g$(x+1,y+1) AND MID
     $(wl$,i,1)=" " THEN 2950
2940 NEXT
2950 MID$(wl$,i,1)=g$(x+1,y+1)
2960 MOVE i*38,0:PRINT g$(x+1,y+1);
2970 MOVE i*38,26:PRINT MID$(v$,i,1);
2980 g$(x+1,y+1)=" "
2990 TAGOFF
3000 GOTO 2860
3010 TAGOFF
3020 LOCATE 1,20:PRINT"
     "
3030 PRINT"                "
3040 EI
3050 RETURN
3060 ORIGIN 108,28
3070 ox=108:oy=28
3080 W$="":WL$="":v$=""
3090 FOR I=1 TO 13
```

```
3100 FOR J=1 TO RND*10+6
3110 L=L+1:IF L>6 THEN L=1
3120 MOVE I*38,0:PRINT MID$(L$(I),L,1);
3130 SOUND 1,50,5,5:SOUND 1,50,3,0
3140 NEXT
3150 w$=w$+MID$(L$(I),L,1)
3160 MOVE I*38,26:PRINT MID$(V$(I),L,1);
3170 v$=v$+MID$(v$(I),L,1)
3180 SOUND 2,25,50,0,1
3190 NEXT
3200 WL$=W$
3210 RETURN
3220 TAG:ORIGIN 320,280,0,639,400,0
3230 PLOT 600,400,2
3240 FOR i=10 TO 12-npl*2 STEP -2
3250 MOVE 0,i*10
3260 PRINT ABS(i/2-6);"          ";:MOVE
     230,i*10:PRINT"     ";
3270 MOVE 0,i*10+2:DRAWR 208,0,1:DRAWR 0
     ,-18:DRAWR-208,0:DRAWR 0,18:MOVE 22
     8,i*10+2:DRAWR 82,0:DRAWR 0,-18:DRA
     WR -82,0:DRAWR 0,18:PLOT 600,400,2
3280 PLOT 600,400,1:MOVE 32,i*10:PRINT p
     l$(i/2);:PLOT 600,400,2
3290 NEXT
3300 MOVE 10,i*10-6:PRINT"TARGET SCORE
     ";TRG;
3310 L=LEN(STR$(trg))
3320 MOVE 8,i*10-4:DRAWR 242+L*16,0,1:DR
     AWR 0,-18:DRAWR -(242+L*16),0:DRAWR
      0,18
3330 RETURN
3340 '
3350 ORIGIN 450,130,0,639,0,399
3360 FOR I=0 TO 8:MOVE -(40+I),-(56-I)
3370 DRAW -(50+I),-66,2:NEXT
3380 MOVE -38,54:FOR i=0 TO 6 STEP 2:DRA
     W -(38+i),64,2:MOVE -(40+i),54:NEXT
3390 FOR I=1 TO 180 STEP 2
3400 X=SIN(I)*66:Y=COS(I)*66
3410 PLOT X,Y,14
3420 DRAWR 20,0,1:PLOTR 2,0,2:MOVE X,Y
3430 X=SIN(-I)*66:Y=COS(-I)*66
3440 DRAW X,Y,2:PLOTR -2,0,1
3450 NEXT
3460 PLOT -64,22,1:PLOTR 2,0:DRAWR 126,0
     ,2:DRAWR 18,0,1:PLOTR 2,0,2
3470 PLOT -68,4,1:PLOTR 2,0: DRAWR 134,0
     ,2:DRAWR 18,0,1:PLOTR 2,0,2
3480 PLOT -68,-4,1:PLOTR 2,0:DRAWR 134,0
     ,2:DRAWR 18,0,1:PLOTR 2,0,2
3490 PLOT -64,-22,1:PLOTR 2,0:DRAWR 126,
     0,2:DRAWR 18,0,1:PLOTR 2,0,2
3500 FOR I=0 TO 8
3510 MOVE 46+I,-56+I
3520 DRAW 56+I,-66,2
3530 NEXT
3540 FOR i=0 TO 360 STEP 30
3550 x=SIN(i)*54:y=COS(i)*54
3560 PLOT x,y,1
3570 x=SIN(i)*62:y=COS(i)*62
3580 DRAW x,y
3590 NEXT
3600 MOVE 45,54
3610 FOR i=0 TO 6 STEP 2:DRAW 45+i,64,2:
     MOVE 47+i,54:NEXT
3620 FOR i=1 TO 180 STEP 8
3630 x=SIN(i)*10:y=COS(i)*10
3640 MOVE 42,74:PLOTR x,y:DRAWR 6,0
3650 x=SIN(i+180)*10:y=COS(i+180)*10
3660 MOVE -38,74:PLOTR x,y:DRAWR -6,0
3670 NEXT
3680 FOR i=0 TO 4
3690 MOVE 46,80+i:DRAWR -88,0:NEXT
3700 RETURN
3710 ORIGIN 9,10,9,630,62,10
3720 CLG 3
3730 DRAWR 0,52,1:DRAWR 620,0:DRAWR 0,-5
     2:DRAWR -620,0
3740 MOVE 0,26:DRAWR 620,0:MOVE 126,0:DR
     AWR 0,52
3750 PLOT 600,400,2:TAG:MOVE 4,18:PRINT"
     Letters";
3760 MOVE 4,44:PRINT"Values";
3770 FOR i=1 TO 13
3780 MOVE 126+i*38,0:DRAWR 0,52,1
3790 NEXT
3800 RETURN
3810 ORIGIN 12,110,9,272,376,110
3820 CLG 3
3830 gs=264
3840 FOR i=0 TO gs STEP 22
3850 MOVE 0,i:DRAW gs,i,1
3860 MOVE i,0:DRAW i,gs
3870 NEXT
3880 RETURN
3890 PRINT INT(RND*6)+1
3900 GOTO 3890
3910 A$=INKEY$:IF A$="" THEN 3910
3920 PRINT ASC(A$)
3930 '
3940 SBCL=0
3950 TAGOFF
3960 ENT -2,10,1,1,20,-1,1,10,1,1
3970 FOR i=1 TO 50:SOUND 1,30,2,7:SOUND
     1,20,2,7:NEXT
3980 FOR i=1 TO 35
3990 SOUND 1,30,1+i/3,0,1:SOUND 1,20,1+i
     /3,0,1
4000 s=s+0.2:i=i+s
4010 NEXT
4020 ENV 2,15,1,1,15,-1,20
4030 SOUND 2,20,20,7
4040 SOUND 1,20,300,0,2
4050 WHILE SQ(1)>127:WEND
4060 LOCATE 1,20:PEN 1:PRINT"CHALLANGE
          ":PEN 2:PRINT"  Y/N ?
     "
4070 WHILE INKEY$="":WEND
4080 A$=INKEY$:IF a$="" THEN 4080
4090 a$=UPPER$(a$)
4100 IF a$="Y" THEN 5040
4110 IF a$<>"N" THEN 4080
4120 LOCATE 1,20:PEN 1:PRINT"      POINT
     S  ":PEN 2:PRINT"           "
4130 FOR I=1 TO 12
4140 FOR J=1 TO 12
4150 IF G$(J,I)>" " AND (G$(J-1,I)>" " O
     R G$(J+1,I)>" ") THEN PT=PT+V(ASC(G
     $(J,I))-64):LOCATE 8,21:PRINT PT:SO
     UND 1,50,30,0,1:WHILE SQ(1)>127:WEN
     D ELSE SOUND 1,20,1,5
4160 FOR D=1 TO 40:NEXT
4170 NEXT:NEXT
4180 FOR I=1 TO 12
4190 FOR J=1 TO 12
4200 IF G$(I,J)>" " AND (G$(I,J-1)>" " O
     R G$(I,J+1)>" ") THEN PT=PT+V(ASC(G
     $(I,J))-64):LOCATE 8,21:PRINT PT:SO
     UND 1,50,30,0,1:WHILE SQ(1)>127:WEN
     D ELSE SOUND 2,20,1,5
4210 FOR D=1 TO 40:NEXT
4220 NEXT:NEXT
4230 ORIGIN 320,280
4240 TAG
4250 FOR i=1 TO pt
4260 SOUND 1,500-PT(PL),3,7
4270 pt(pl)=pt(pl)+1
4280 MOVE (294-LEN(STR$(pt(pl)))*16),(pl
     *2)*10
4290 PRINT pt(pl);
4300 IF pt(pl)>trg THEN 5320
4310 NEXT
4320 MP=0
4330 ORIGIN 108,28
4340 IF s$="" THEN 4390
4350 FOR L=1 TO LEN(s$)
4360 GOSUB 1980
4370 SOUND 1,20,4,7
4380 NEXT
4390 FOR I=1 TO 13
4400 IF MID$(WL$,I,1)=" " THEN 4420
4410 MP=MP+V(ASC(MID$(WL$,I,1))-64)
4420 NEXT
4430 TAGOFF
4440 LOCATE 1,20:PRINT"                ":
     PRINT"          "
4450 IF MP>0 THEN 4710
4680 ORIGIN 108,28
4690 TAGOFF:LOCATE 8,20:PRINT"      "
4700 GOTO 4800
4710 ORIGIN 320,280:TAG:PLOT 600,400,2
4720 FOR i=1 TO mp
4730 pt(pl)=pt(pl)-1
4740 IF pt(pl)<0 THEN pt(pl)=0
4750 MOVE (288-LEN(STR$(pt(pl)))*16),(pl
     *2)*10
4760 PRINT pt(pl);
4770 SOUND 1,100+i*3,3,7
4780 NEXT
4790 ORIGIN 108,28
4800 TAG
4810 FOR i=1 TO 13
4820 TAG
4830 MOVE i*38,0:PRINT " ";:MOVE i*38,26
     :PRINT" ";
4840 SOUND 1,i*10,1,7
4850 NEXT
4860 ORIGIN 16,128
4870 FOR i=0 TO 11:FOR j=0 TO 11:IF g$(i
     +1,j+1)>" " THEN g$(i+1,j+1)=" ":MO
     VE i*22,j*22:PRINT" ";
4880 NEXT:NEXT
4890 ORIGIN 320,280
4900 PLOT 600,400,1:MOVE 32,(pl*2)*10:PR
     INT LOWER$(pl$(pl));
4910 pl=pl-1:IF pl<6-npl THEN pl=5:TIM=T
     IM-5:IF TIM<20 THEN TIM=20
4920 PLOT 600,400,2:MOVE 32,(pl*2)*10:PR
     INT UPPER$(pl$(pl));
4930 ft=0:pt=0
4940 TAGOFF
4950 LOCATE 1,20:PEN 1:PRINT" SPACEBAR t
     o PLAY":PEN 2
4960 IF INKEY$<>" " THEN 4960
4970 LOCATE 1,20:PRINT"
          "
4980 TAG
4990 GOTO 1670
5000 EVERY 30,1 GOSUB 5020
5010 GOTO 5010
5020 IF tk=1 THEN tk=0:SOUND 4,100,1,7,,
     2 ELSE tk=1:SOUND 4,70,1,7,,,2
5030 RETURN
5040 '
5050 LOCATE 1,20:PRINT"                "
5060 LOCATE 1,21:PRINT"                "
5070 EVERY 10000,1 GOSUB 820:clk=0
5080 sbcl=1:GOSUB 2840:sbcl=0
5090 GOTO 4120
5100 '
5110 BORDER 0:INK 3,25:WINDOW 1,40,1,14:
     PAPER 1:CLS:PAPER 0
5120 DI:ORIGIN 0,0:FOR i=78 TO 100 STEP
     4:MOVE 10,i:DRAW 240,i,2:MOVE 10,i+
     2:DRAW 240,i+2,0:MOVE 420,i:DRAW 60
     0,i,1:MOVE 420,i+2:DRAW 600,i+2,0:N
     EXT:ORIGIN 320,86:EI
5130 PAPER 1
5140 PRINT TAB(13);"BEAT the CLOCK"
5150 PRINT TAB(13);STRING$(14,208)
5160 PRINT:PRINT" The object of the ga
     me is to make a":PRINT"crossword
      using 13 random letters,":PRI
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LISTING

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    NT"obeying normal crossword rules b
    ut there"
5170 PRINT"is a time limit which gets sh
    orter after":PRINT"each round.
                                ":
    PEN 3:PRINT" SPACEBAR TO CONTINUE":
    PEN 2
5180 IF INKEY$<>" " THEN 5180
5190 CLS:PRINT TAB(13);"BEAT the CLOCK":
    PRINT TAB(13);STRING$(14,208)
5200 PRINT:PRINT" Enter a word from the
    letters available":PRINT"and press
    ENTER, then postion the cursor":PRI
    NT"using the arrow keys to where t
    he word":PRINT"is to start on the
    grid.    Press ENTER":PRINT"then '
    A' for across or 'D' for down."
5210 PRINT:PRINT"          SPACEBAR TO C
    ONTINUE"
5220 IF INKEY$<>" " THEN 5220
5230 CLS:PRINT TAB(13);"BEAT the CLOCK":
    PRINT TAB(13);STRING$(14,208)
5240 PRINT:PRINT" If a word is to cros
    s a word in the":PRINT"grid then
    that word must have a space":PRI
    NT"where they cross. Words may be
     deleted":PRINT"from the grid by pr
    essing the 'CLR' key."
5250 PRINT:PRINT:PRINT"          SPACEBA
    R TO CONTINUE"
5260 IF INKEY$<>" " THEN 5260
5270 CLS:PRINT TAB(13);"BEAT the CLOCK":
    PRINT TAB(13);STRING$(14,208)
5280 PRINT:PRINT" When the players time
    is up then the":PRINT"next playe
    r may challenge one or more of":PRI
    NT"the words in the grid and remo
    ve then":PRINT"before the points a
    re added up."
5290 PRINT:PRINT:PRINT:PRINT"          S
    PACEBAR TO CONTINUE"
5300 IF INKEY$<>" " THEN 5300
5310 CLS:GOTO 1110
5320 '
5330 TAGOFF
5340 LOCATE 1,20:PRINT"
          ":PRINT"          "
5350 LOCATE 1,20:PRINT pL$(pl);" WINS"
5360 GOSUB 5430
5370 LOCATE 1,20:PRINT" SPACEBAR TO PLAY
     AGAIN"
5380 GOSUB 5430
5390 GOTO 5340
5400 RUN 160
5410 a$=INKEY$:IF a$="" THEN 5410
5420 PRINT ASC(a$)
5430 DATA 239,268,0
5440 DATA 213,284,0
5450 DATA 190,319,0
5460 DATA 179,358,716
5470 DATA 179,239,716
5480 DATA 239,284,716
5490 DATA 239,239,716
5500 DATA 0,358,716
5510 DATA 179,239,716
5520 DATA 190,284,716
5530 DATA 179,319,716
5540 DATA 159,319,638
5550 DATA 159,213,638
5560 DATA 213,284,638
5570 DATA 213,213,638
5580 DATA 0,319,638
5590 DATA 213,213,638
5600 DATA 190,268,568
5610 DATA 179,253,506
5620 DATA 142,239,478
5630 DATA 159,190,478
5640 DATA 159,190,638
5650 DATA 179,213,638
5660 DATA 179,239,478
5670 DATA 190,239,478
5680 DATA 213,253,638
5690 DATA 190,268,638
5700 DATA 239,284,568
5710 DATA 239,239,478
5720 DATA 239,284,568
5730 DATA 239,301,602
5740 DATA 0,319,638
5750 DATA 999,999,999
5760 RESTORE 5430
5770 CO=0
5780 ENT -1,1,1,1,2,-1,1,2,1,1,1,-1,1
5790 ENT -2,2,1,1,4,-1,1,4,1,1,2,-1,1
5800 READ A,B,C
5810 CO=CO+1:IF CO=61 THEN GOTO 5880
5820 IF A=999 THEN RESTORE 5430:GOTO 580
     0
5830 SOUND 1,A,20,6,0,1
5840 SOUND 2,B,20,5
5850 SOUND 4,C,20,5,0,2
5860 IF INKEY$=" " THEN RUN 160
5870 IF CO<60 THEN 5800
5880 SOUND 1,179,120,7,0,1
5890 SOUND 2,284,120,6
5900 SOUND 4,716,120,6,0,2
5910 WHILE SQ(4)>127:WEND
5920 RETURN
```