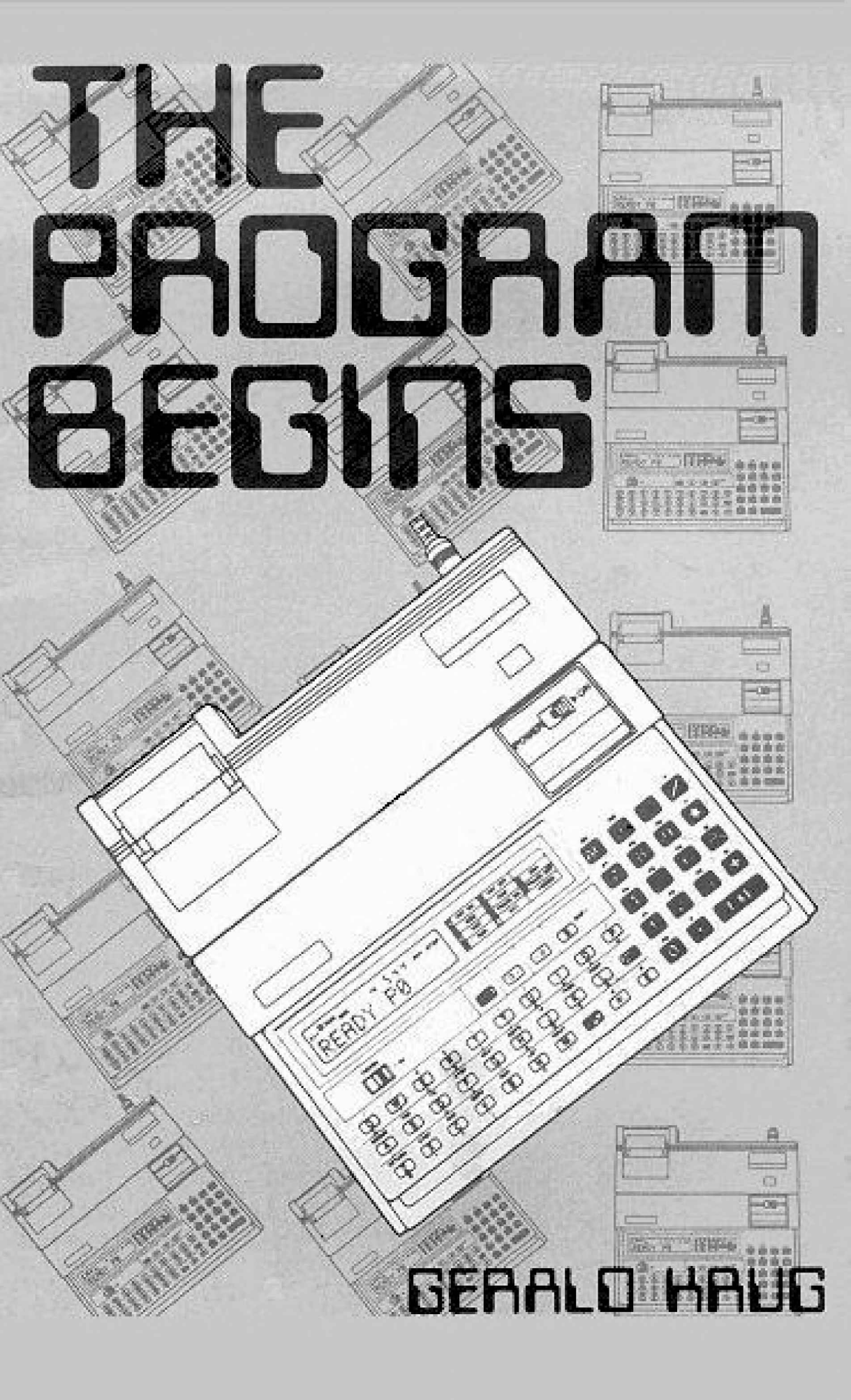
THE PROGRAM BEGINS



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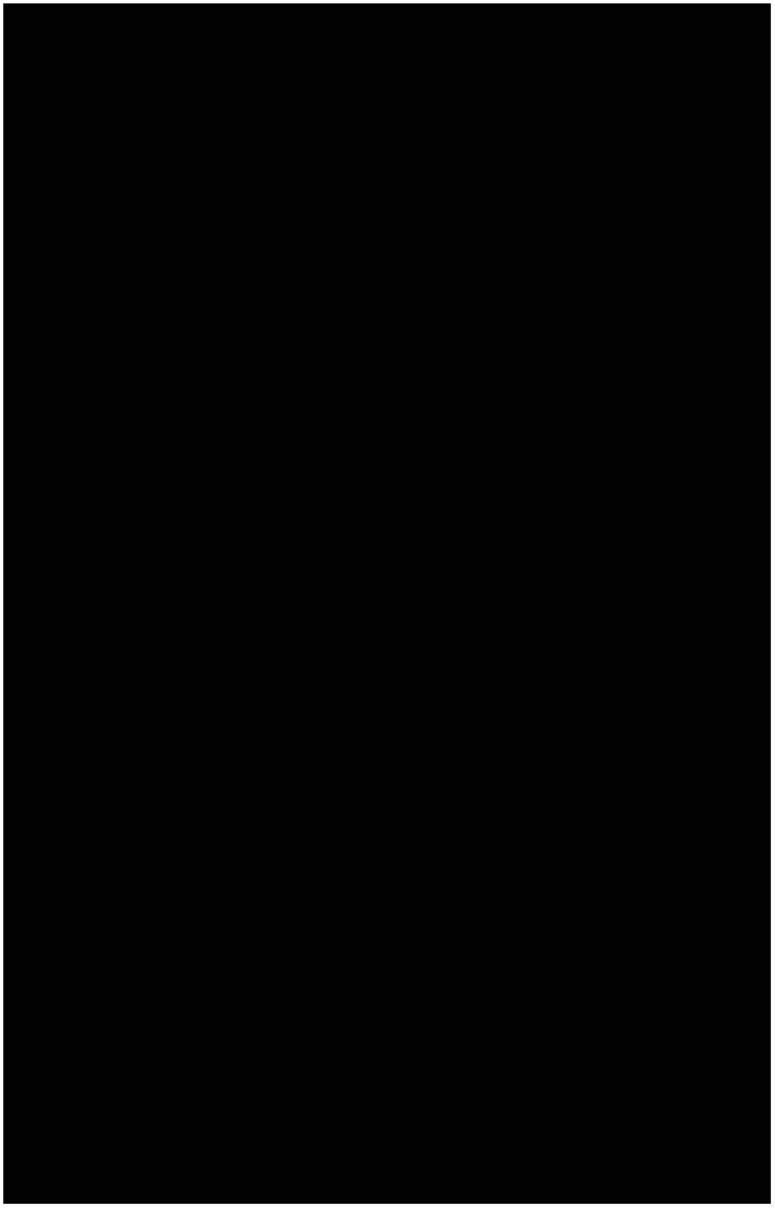

The Program Begins

Over 50 programs on the pc-4 pocket computer.

By

Gerald Krug

Title:
The Program Begins

Subtitle:
Over 50 programs on the Trs-80 pc-4 pocket computer

created by: Gerald D. Krug

written by: Gerald D. Krug

PO BOX 5552
Sherman Oaks,California 91413

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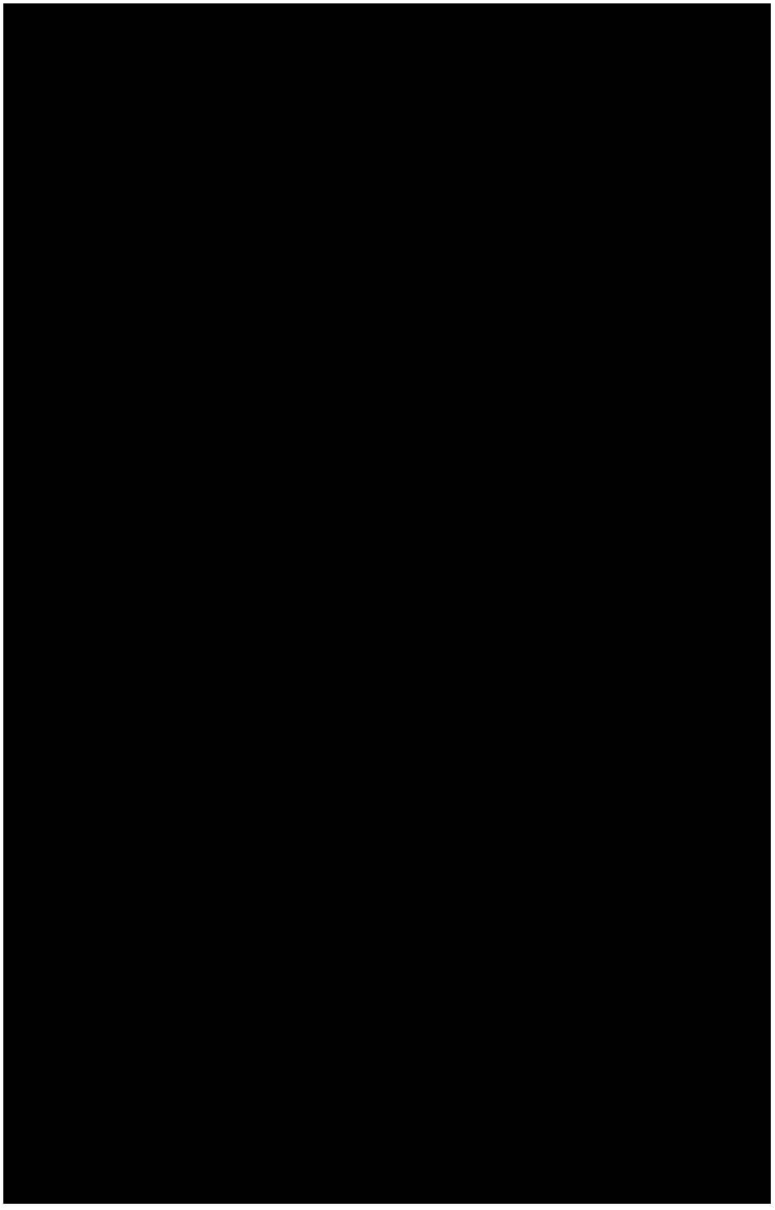
Laplace strongly believed in causal determinism, which is expressed in the following quote from the introduction to the Essai: "We may regard the present state of the universe as the effect of its past and the cause of its future. An intellect which at a certain moment would know all forces that set nature in motion, and all positions of all items of which nature is composed, if this intellect were also vast enough to submit these data to analysis, it would embrace in a single formula the movements of the greatest bodies of the universe and those of the tiniest atom; for such an intellect nothing would be uncertain and the future just like the past would be present before its eyes." This intellect is often referred to as Laplace's demon (in the same vein as Maxwell's demon). Note that the description of the hypothetical intellect described above by Laplace as a demon does not come from Laplace, but from later biographers: Laplace saw himself as a scientist that hoped that humanity would progress in a better scientific understanding of the world, which, if and when eventually completed, would still need a tremendous calculating power to compute it all in a single instant. While Laplace saw foremost practical problems for mankind to reach this ultimate stage of knowledge and computation, later interpretations of quantum mechanics, which were adopted by philosophers defending the existence of free will, also leave the theoretical possibility of such an "intellect" contested: for a further discussion of this issue, see also: determinism. There has recently been proposed a limit on the computational power of the universe, ie the ability of Laplace's Demon to process an infinite amount of information. The limit is based on the maximum entropy of the universe, the speed of light, and the minimum amount of time taken to move information across the Planck length, and the figure turns out to be 2 to the 130 bits. Accordingly, anything that requires more than this amount of data cannot be computed in the amount of time that has lapsed so far in the universe. (An actual theory of everything might find an exception to this limit, of course.)

Raiders Game

The object of this game is to bomb the enemy. It requires that you be able to judge distance and depth. The score indicates who wins with running totals. You can create your own Star Wars Fantasy.

Enter a number from 1-9 and EXE

```
10 VAC
20 FOR L=1 TO 2
30 PRINT "!RAIDERS
   !";
40 NEXT L
50 PRINT "TIME TO
   FIRE";
60 Q=0:PRINT " AIM
   ";
70 INPUT " AT 1-9"
   ,Q
103 D=INT (8*RAN#+1
   )
104 S=INT (8+RAN#+1
   )
105 IF S=D THEN 167
106 IF S=Q THEN 170
107 IF Q<S THEN 182
108 IF Q<D THEN 167
110 IF S<Q:PRINT "I
   T'S HIT"
130 IF D=Q THEN 182
166 GOTO 60
167 PRINT "YOU MISS
   ED"
168 Q=Q+1
169 GOTO 60
170 PRINT "IT GOT Y
   OU"
180 V=V+1
181 GOTO 190
182 PRINT "IT'S BLO
   WN":GOTO 183
183 W=W+1
190 PRINT "SCORE...
   ";
191 PRINT "IT";V;"
   YOU";W;
200 GOTO 60
```

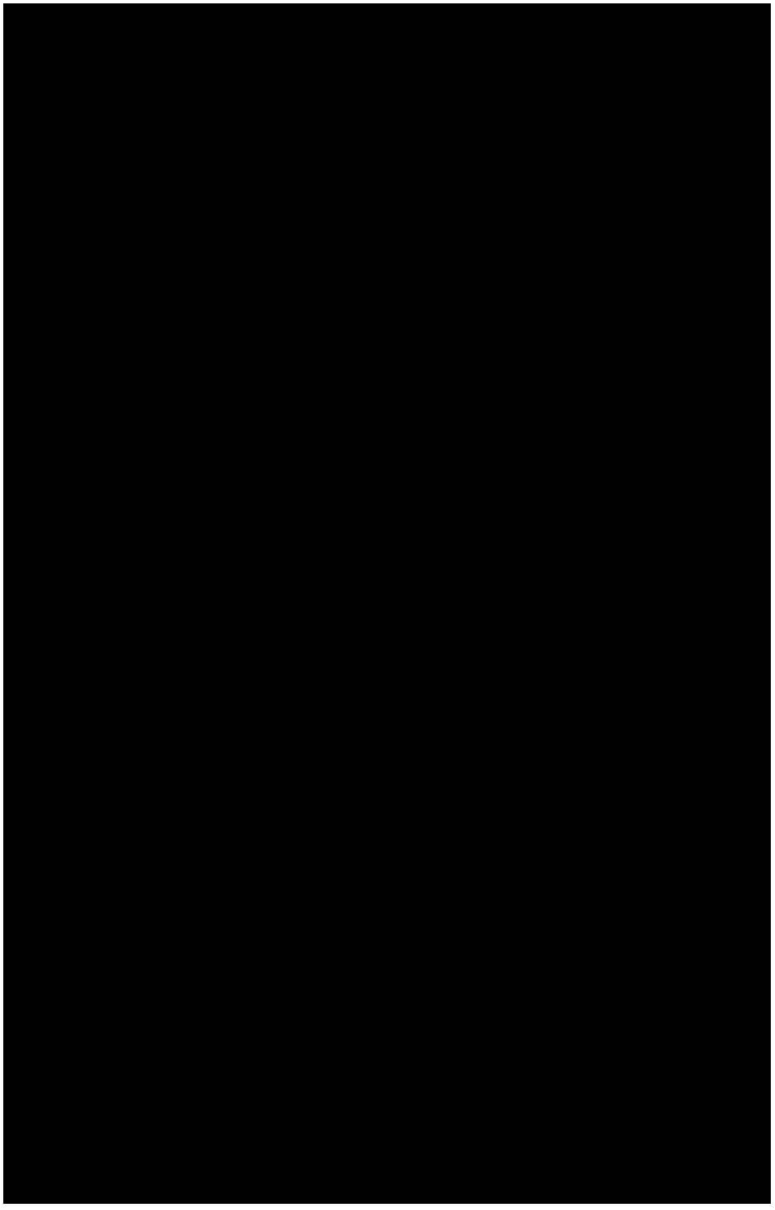


Kilos to Miles

Most other nations use Kilometers instead of miles. This program converts distance in kilometers to distance in miles.

Enter kilos and EXE

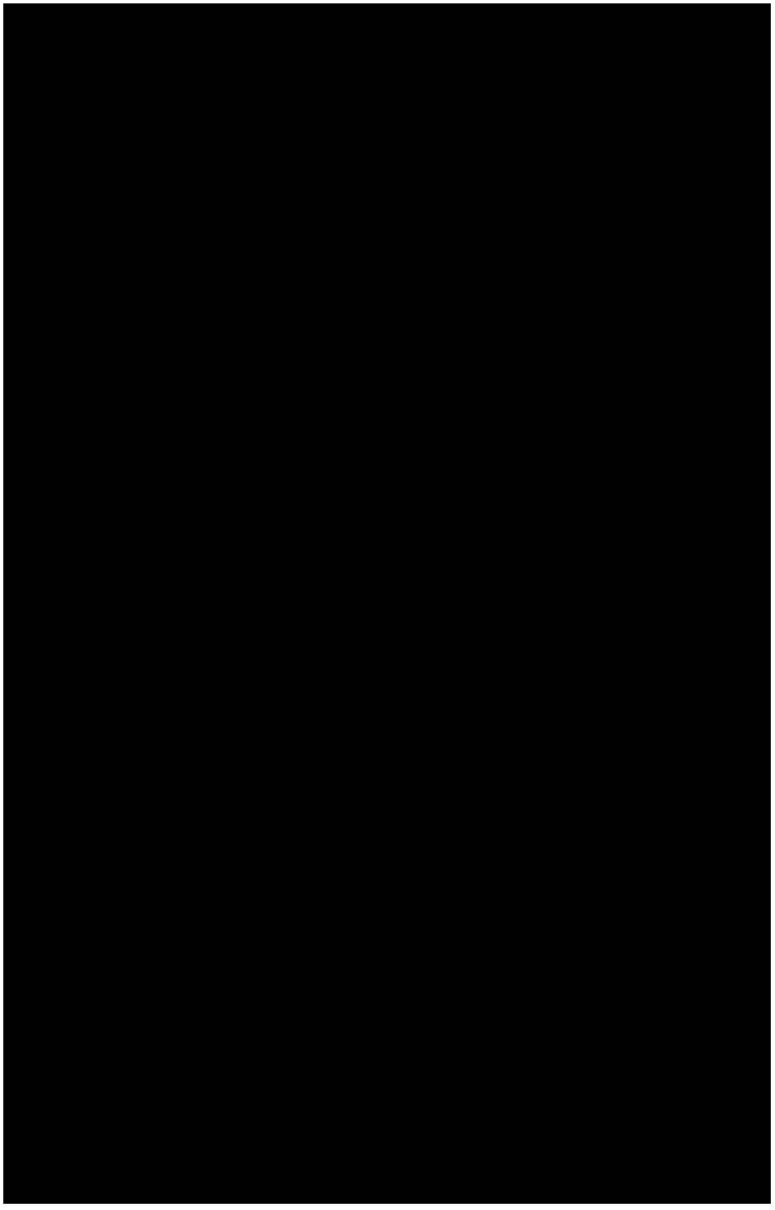
```
 1 PRINT 'KILO.TO
   MILE';
10 M=0
15 INPUT ' AMT.OF
   KILO.';M
20 FOR I=1 TO M
30 M=M+.62
40 NEXT I
50 PRINT 'MILES';M
   ;
60 GOTO 10
```



Celcius to Fahrenheit

Conversion of Celcius to Fahrenheit.
Enter Cel. EXE

```
10 PRINT "CEL.TO F
   AHREN.:";
15 INPUT " CEL. ",
   C
20 F=1.8*C+32
30 PRINT "FAHREN."
   ;F;
40 GOTO 15
```

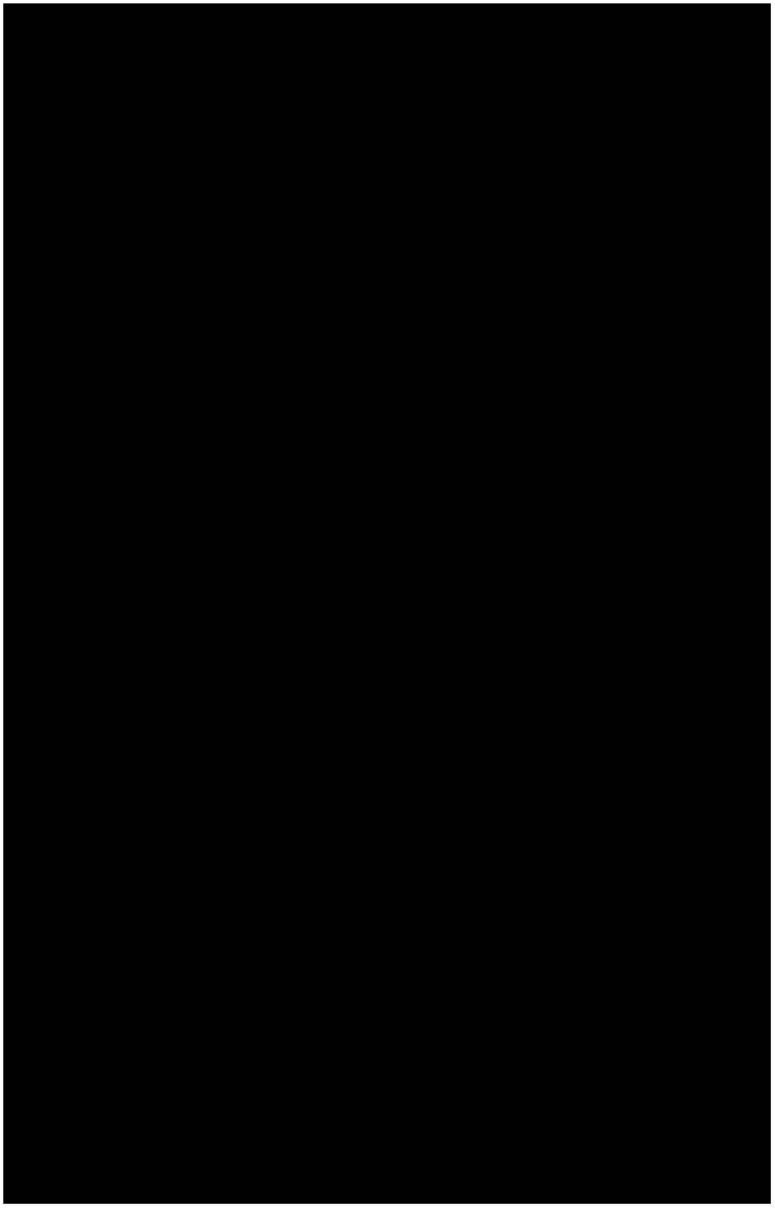


Begin at X and Double Each Answer

Used for expansion of times tables for the projections of growth and profit.

Enter # to double, EXE and # of times doubled, EXE.

```
10 A=0:W=0
15 INPUT "# TO X'S
    DOUBLED",A,W
20 FOR I=1 TO W
30 A=A*2
40 NEXT I
50 PRINT A
60 GOTO 10
```

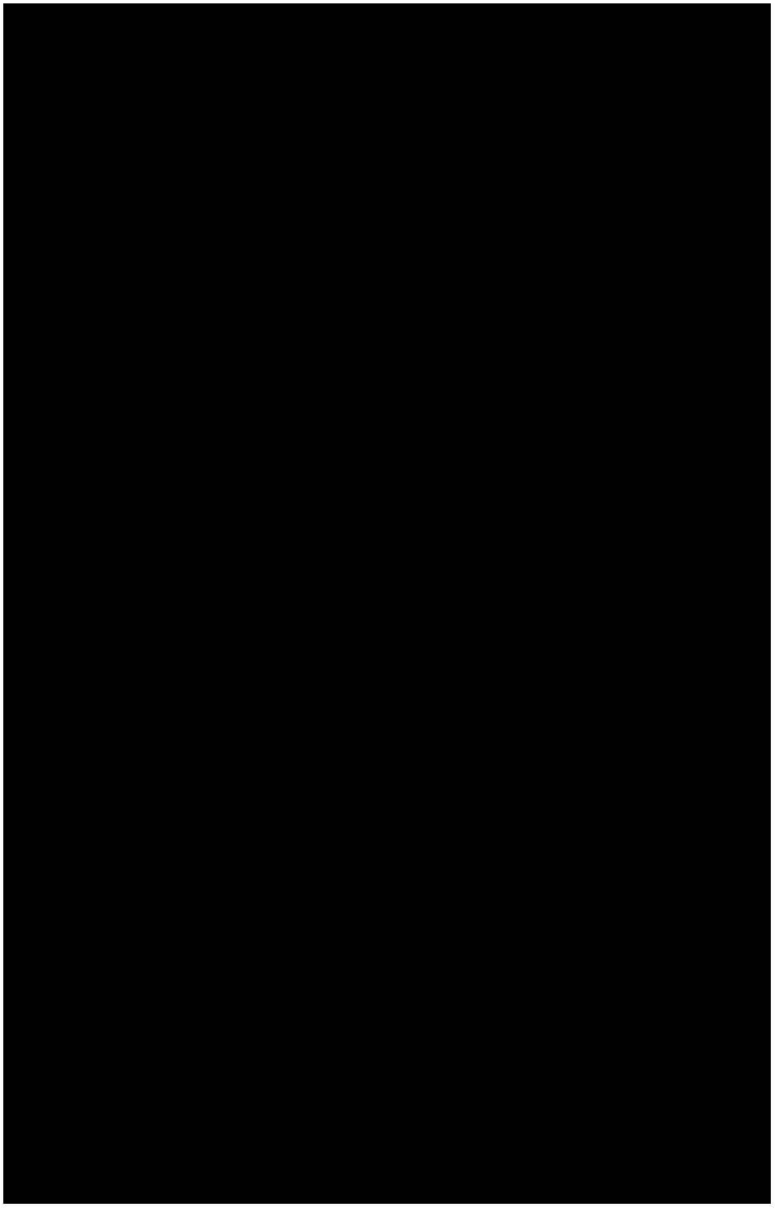


Programmable: Dollars to Pounds, Franc, Marks

Used for travel when dealing with the currency of another nation.

Enter current value of pound, EXE franc, EXE mark EXE and dollar or dollars to convert, EXE. Program also accepts new dollar amounts to convert.

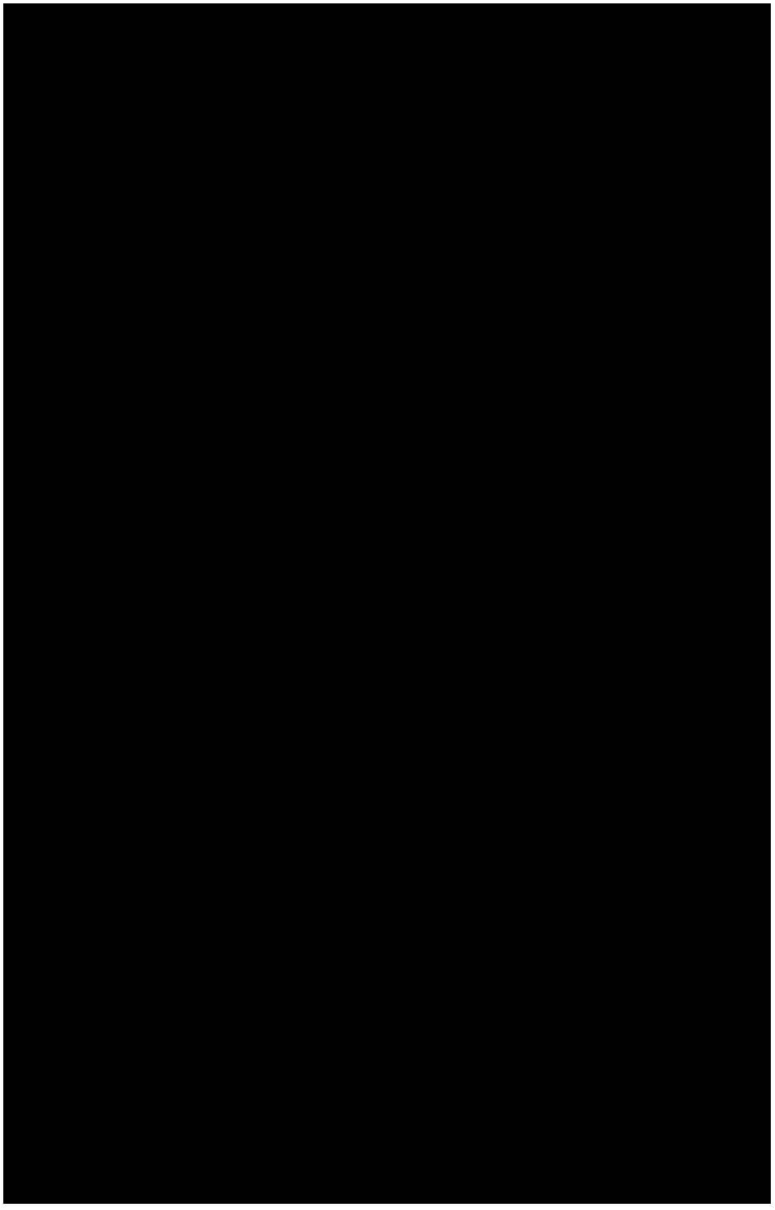
```
10 PRINT "DOLLARS=
   POUND;FRANC;MAR
   K:";
20 INPUT "CURR.POU
   ND=",P
21 INPUT "CURR.FRA
   NC=",F
22 INPUT "CURR.MAR
   K=",M
23 INPUT " DOLLARS
    ",I
30 A=I/P
40 B=I/F
50 C=I/M
60 PRINT I;":";A;"
   :";B;":";C;
70 I=0:A=0:B=0:C=0
   :GOTO 23
```



Change in Dollars, Quarters, Dimes, Nickles, Pennies

Enter charge, EXE cash tendered, EXE

```
 10 VAC
 20 INPUT "CHARGE T
    OTAL",X
 30 INPUT "CASH REC
    .",T
 41 B=INT (T-X)
 51 A=(T-X)-B
 52 C=T-X
 60 IF A<.25 THEN 9
    0
 70 Q=Q+1:A=A-.25
 80 GOTO 60
 90 IF A<.10 THEN 1
    20
100 D=D+1:A=A-.10
110 GOTO 90
120 IF A<.05 THEN 1
    50
130 N=N+1:A=A-.05
140 GOTO 120
150 P=A*100
160 PRINT "CHANGE="
    ;B;"$ ";Q;"QUA
    RTERS ";D;"DIMES ";N;
    "NICKLE";
170 PRINT " ";P;"PE
    NNIES ";
180 GOTO 10
```

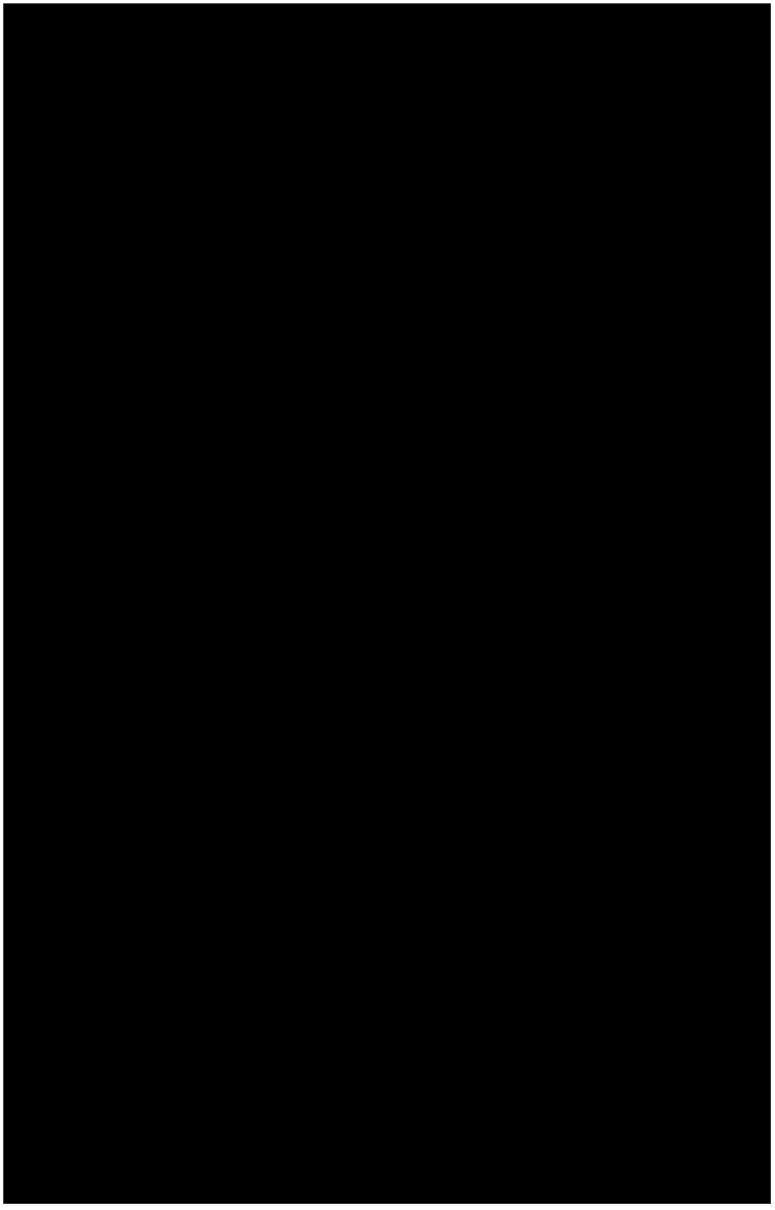


Lunar Landing Game

Fantasy game creating fuel use, altitude and landing conditions. Object of the game is to conserve fuel and land safely.

Enter altitude, EXE fuel, EXE how much fuel, EXE (to coast enter 0, EXE). Try to keep a negative escape velocity or you will gain altitude. If you think your altitude and velocity spells crash, burn extra fuel to gain altitude and try new fuel usages. Final velocity gives condition of landing.

```
 10 PRINT "LUNAR LA
    NDING:";
 11 X=0:V=0:F=-V
 20 INPUT "ALTITUDE
    ",X
 30 V=0
 40 INPUT "FUEL",F
 45 PRINT "GO!!";
 50 PRINT "ALT.=";X
    ;
 60 PRINT " VEL.=";
    V;
 70 PRINT " FUEL LE
    FT=";F;
 80 IF F=0 THEN 110
 90 INPUT " HOW MUC
    H FUEL ",E
 91 GOTO 110
100 GOTO 50
110 IF E>F:E=F
115 F=F-E
117 A=(2.3*E)-E*F/2
    00-2*X
120 IF F=0:V=V+(-1)
121 IF A=0 THEN 130
122 V=V+A
123 X=X+V-(A/2)
124 IF X>1 THEN 50
130 V=-V
180 PRINT "VEL.";V;
192 PRINT " VEL.0+5
    =OK! ";"5+12 BU
    MPY ";"12+21 CR
    UNCH ";
195 PRINT "21+47 CR
    ASH ";"47+77 GO
    NE ";
197 GOTO 20
```

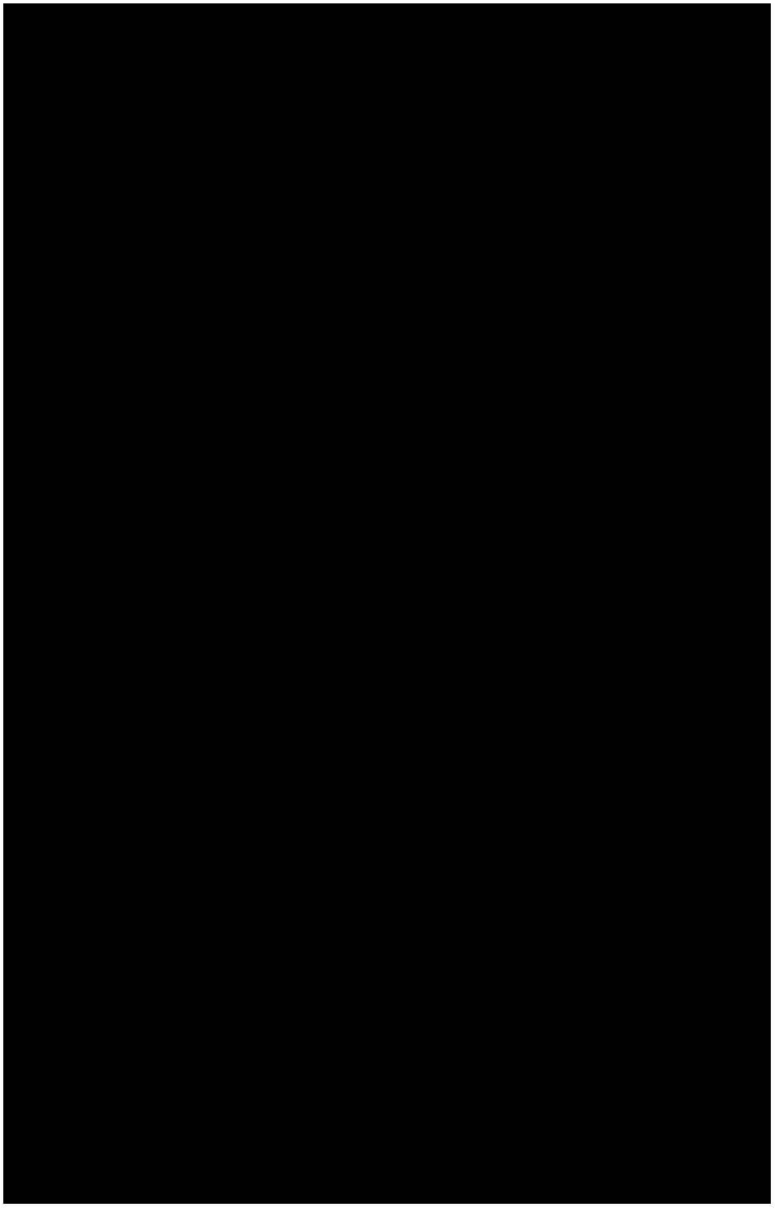


Pseudo Decision Maker Game

Computer chooses a random number, you ask question and enter choice of numbers 1 to 4, computer answers with yes, no, wait, or ask twice.

EXE, ask a question and enter 1, 2, 3 or 4, EXE to get answer. EXE for another question.

```
  1 PRINT "DECISION
    S "
  2 INPUT "1,2,3,4"
    ,X
  3 IF X<1 THEN 2
  4 IF X>4 THEN 2
  5 Y=INT (4*RND#)
  6 IF Y=4 THEN 100
  7 IF Y=1 THEN 110
  8 IF Y=2 THEN 130
  9 IF Y=3 THEN 120
100 PRINT "YES":GOT
    O 2
110 PRINT "NO":GOTO
     2
120 PRINT "WAIT":GO
    TO 2
130 PRINT "ASK TWIC
    E":GOTO 2
```

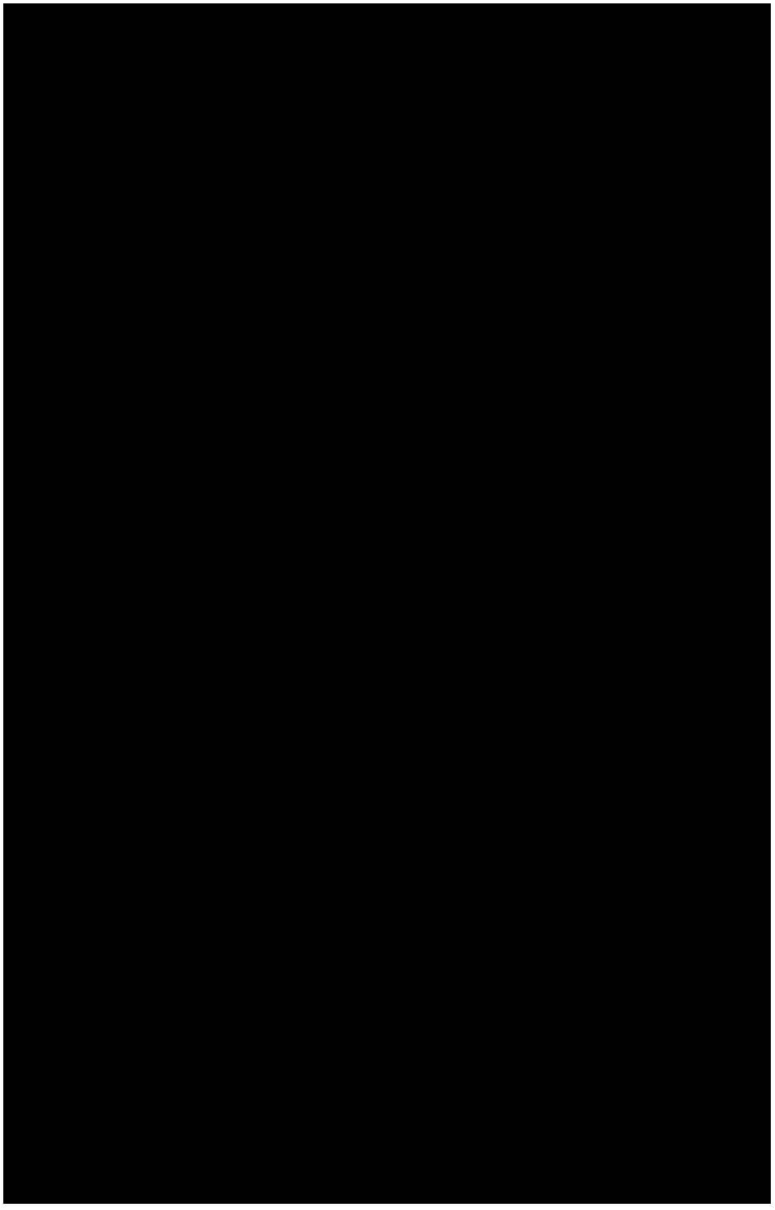


Constant Message Display

Any message you wish to enter, change words in lines 20 through 70 and computer will display message on a constant mode.

EXE. A programmable message display is made by inputting A$ to F$ with input questions like, 20 input A$.

```
10 PRINT "MESSAGE"
20 A$="THE "
30 B$="CAT "
40 C$="IS "
50 D$="IN "
60 E$="THE "
70 F$="BAG "
80 PRINT A$;B$;C$;
   D$;E$;F$;
90 GOTO 20
```

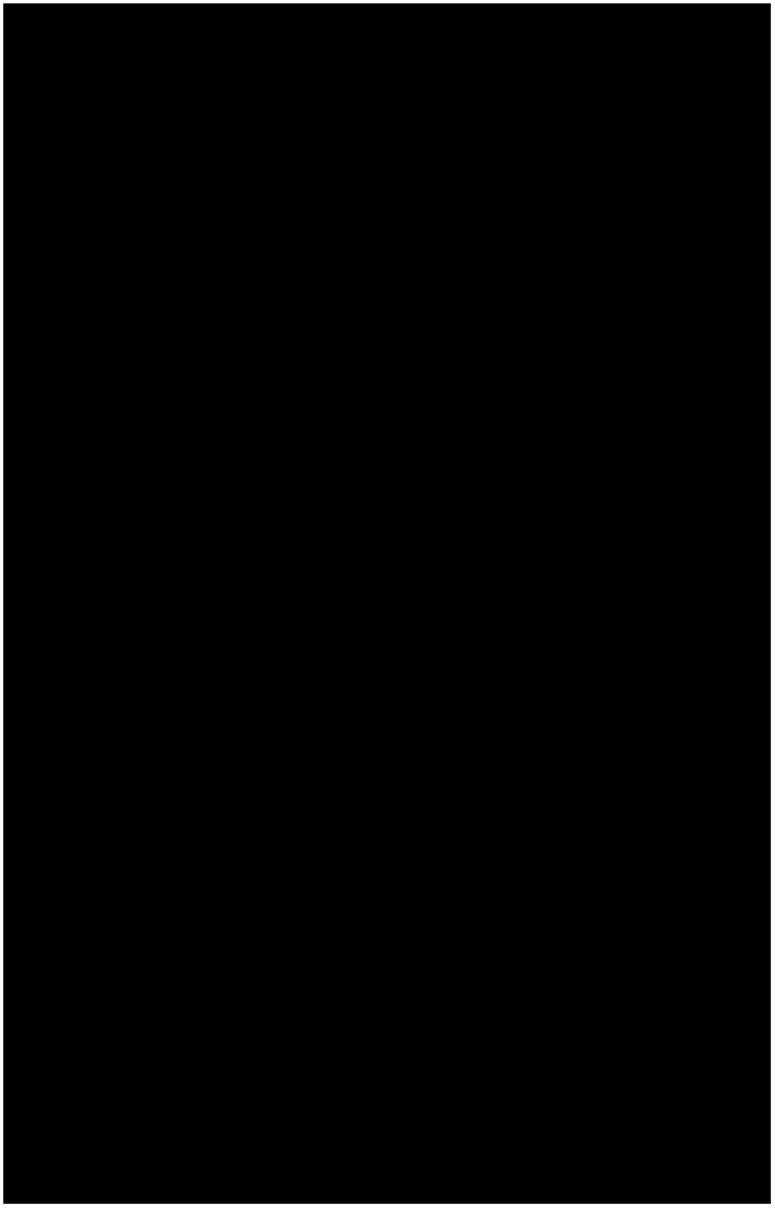


Target-Hit Game

Object of this game is to hit moving target using math as your range finder.

Enter laser aim # by mentally doing the multiplication equation and EXE to see if you're on target, by *TARGET-HIT*

```
 7 PRINT "TARGET H
   IT ";
 8 VAC
 9 W=INT (5*RAN#+2
   )
10 A=INT (99*RAN#+
   2)
11 E$="LO"
12 F$="HI"
13 IF A<33:PRINT E
   $;
14 IF A>66:PRINT F
   $;
16 Y=1
17 B=B-B+Y
18 C=B+C
19 Z=A/2
20 PRINT "X'S ";Z;
   " BY";W;"   ";
21 P=(A/2)*W
23 INPUT "AIM # IS
   ",B
24 IF P=B THEN 8
25 PRINT "*TARGET
   HIT*";
35 PRINT " SHOTS F
   IRED";C;":";
40 GOTO 8
```

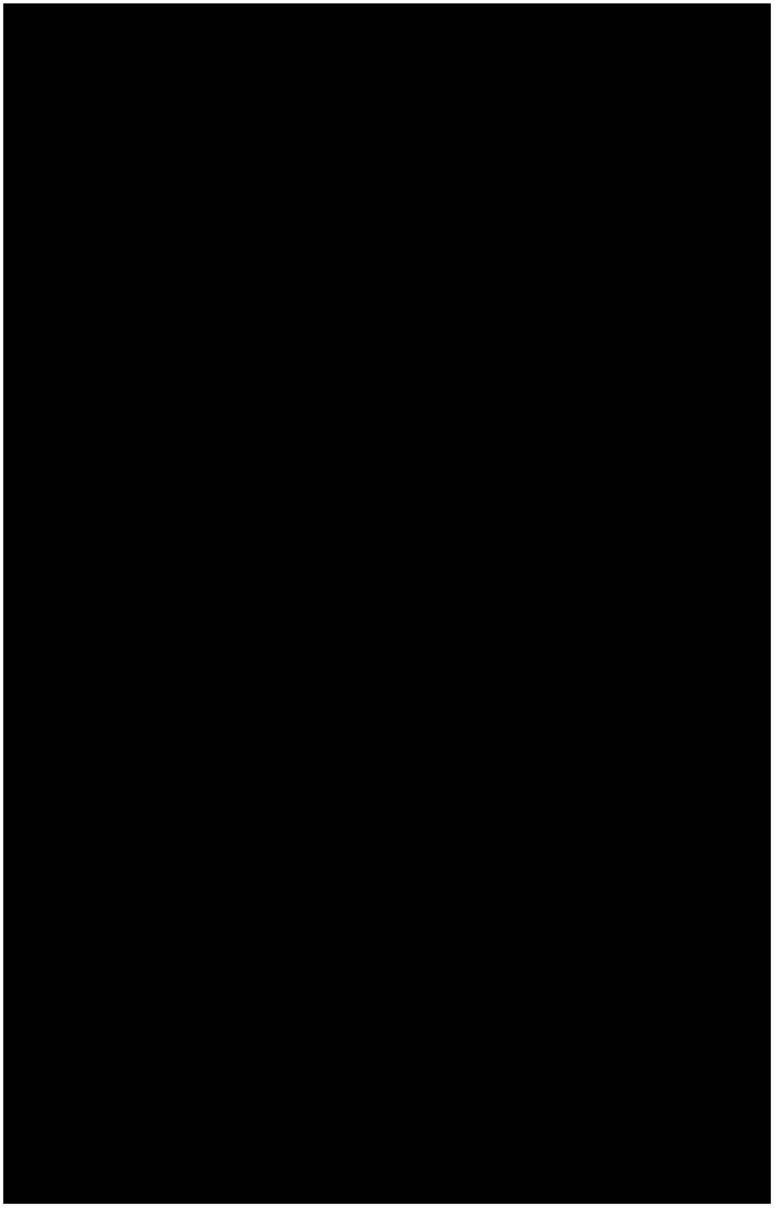


List With Password to Gain Entry

Password list is used for a private list you wish to retain for future reference.

Type list, EXE list, EXE enter 1 and write a seven letter, maximumum word, EXE now enter 0 to read the word. If you want to erase the word enter 1, EXE and SPC key, EXE the same rules apply to words 2-12. Don't enter 13 to enter a 13 word since only 12 words, or whatever, can be accepted.

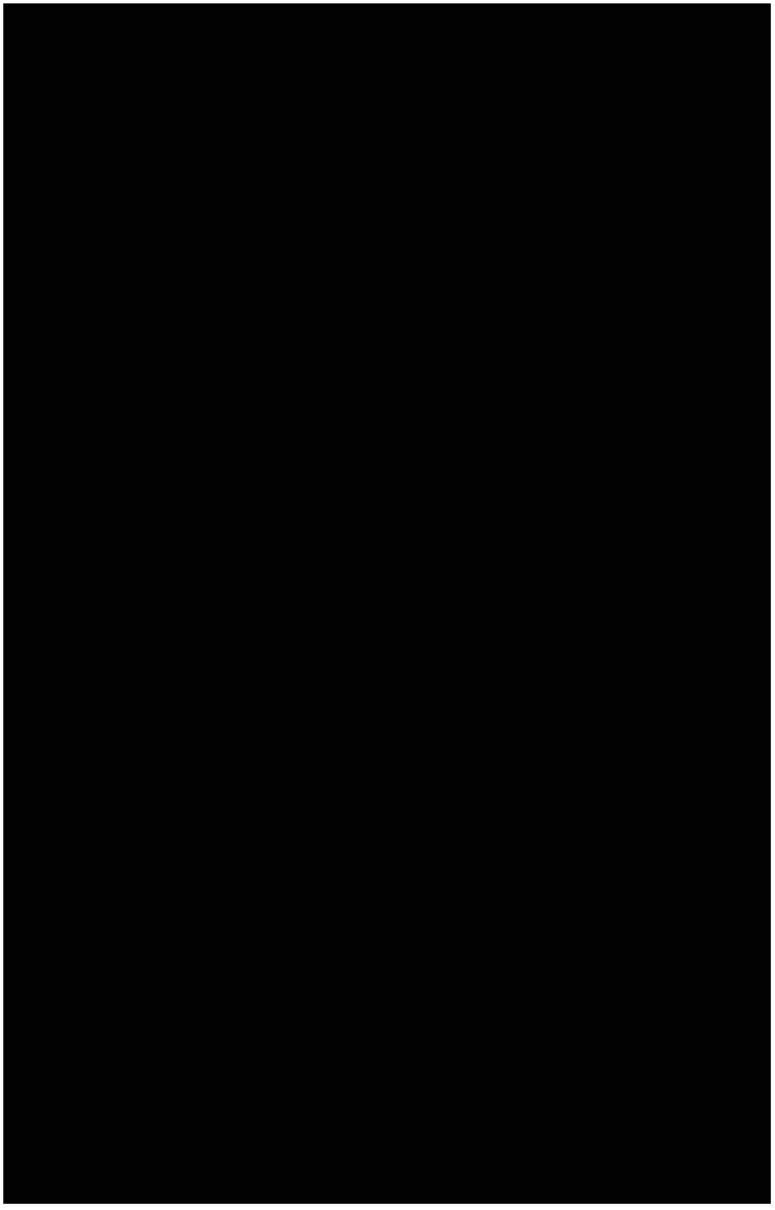
```
 1 A$="LIST"
 2 B$="LIST"
 3 INPUT "PASSWORD
   ",B$
 4 INPUT "PASSWORD
   ",A$
 5 IF A$=B$:PRINT
   C$;" ";D$;" ";0
   $;" ";P$;" ";G$
   ;" ";H$;
 6 PRINT I$;" ";J$
   ;" ";K$;" ";L$;
   " ";M$;" ";N$;"
    ";
 7 INPUT "WRITE 1-
   12,ERASE SPC:RE
   AD 0",Z
 8 Z=Z+10
 9 GOTO Z
10 GOTO 5
11 INPUT "WORD 1",
   C$:GOTO 5
12 INPUT "WORD 2",
   D$:GOTO 5
13 INPUT "WORD 3",
   O$:GOTO 5
14 INPUT "WORD 4",
   P$:GOTO 5
15 INPUT "WORD 5",
   G$:GOTO 5
16 INPUT "WORD 6",
   H$:GOTO 5
17 INPUT "WORD 7",
   I$:GOTO 5
18 INPUT "WORD 8",
   J$:GOTO 5
19 INPUT "WORD 9",
   K$:GOTO 5
20 INPUT "WORD 10"
   ,L$:GOTO 5
21 INPUT "WORD 11"
   ,M$:GOTO 5
22 INPUT "WORD 12"
   ,N$:GOTO 5
```



Dice Roll of Two Dice Game

Shooting craps on computer, or use for any game using two dice.
EXE, EXE.EXE.EXE....

```
10 PRINT "DOUBLE O
   ICE"
20 X=INT (RAN#*11)
   +2
30 PRINT " YOUR RO
   LL:";X
40 GOTO 20
```

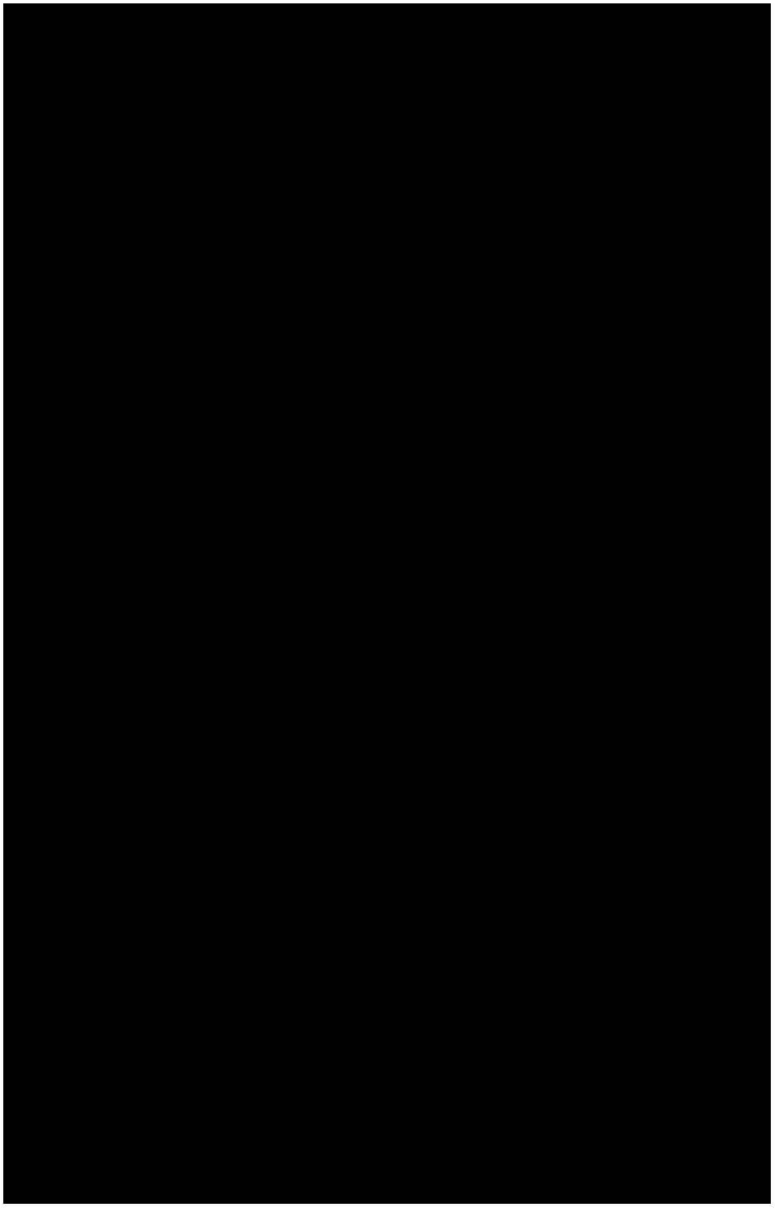


Three on One Game

Aim of this game is to successfully make twenty moves without being caught in any traps.

Enter a # from 1 to 9 EXE. If the # you choose is OK re-enter it EXE. If don't go appears EXE for different #, EXE, if a trap gets you then EXE to continue. 20 wins.

```
 80 PRINT "3 ON 1 "
    ;
 90 N=0:T=0
100 PRINT "20 WINS
    ";
110 PRINT "3 TRAPS
    DO LOOK FOR YOU
     ";
140 INPUT "MOVE",Z
141 GOSUB 200
142 Z=0
143 IF U=V:Z=0
144 IF V<3:PRINT "T
    RAP 1 GOT YOU":
    GOTO 240
145 IF N=20:PRINT "
    WINNER":GOTO 80
150 IF Z>6:PRINT "O
    K":GOTO 180
160 IF Z<5:PRINT "D
    ON'T GO":T=T+4:
    GOTO 250
180 N=N+1:GOTO 230
190 GOTO 140
200 X=INT (20*RAND)
201 U=INT (20*RAND+
    1)
210 W=INT (20*RAND)
211 V=W+X
220 RETURN
230 PRINT "SCORE";N
    ;:GOTO 231
231 IF N=U:PRINT "T
    RAP 3 GOT YOU":
    N=N-2:GOTO 190
232 GOTO 190
240 N=N-4:GOTO 230
250 IF T>20:PRINT "
    TRAP 2 GOT YOU"
    :T=0:GOTO 240
260 GOTO 140
```

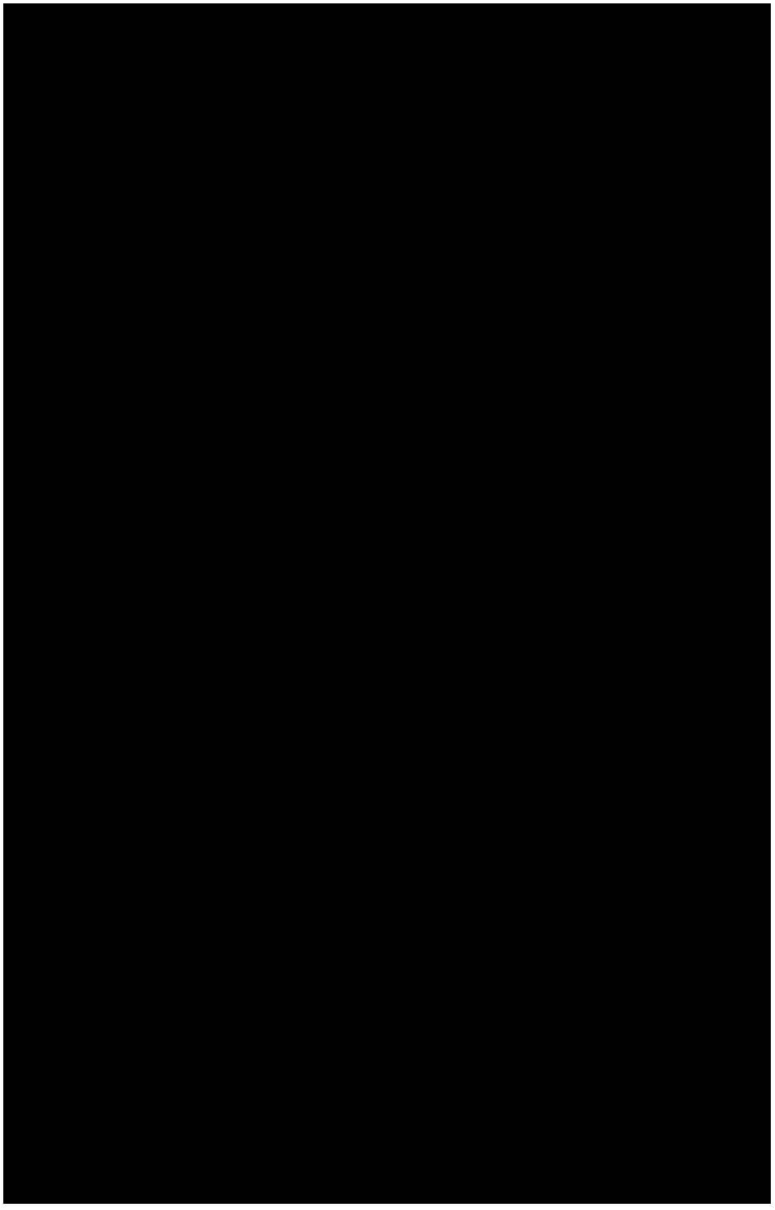


Strafing Fire Game

Object of this game is to hit an invisible enemy. Computer creates unseen enemy. Game permits you 50 chances to hit enemy.

Enter # 1-50 EXE and # 1-50 EXE, EXE. If you detect an area # EXE, enter area # detected EXE, EXE. After comment on the performance EXE. Order beam supply do AC, MODE, 0, SHIFT, 0.

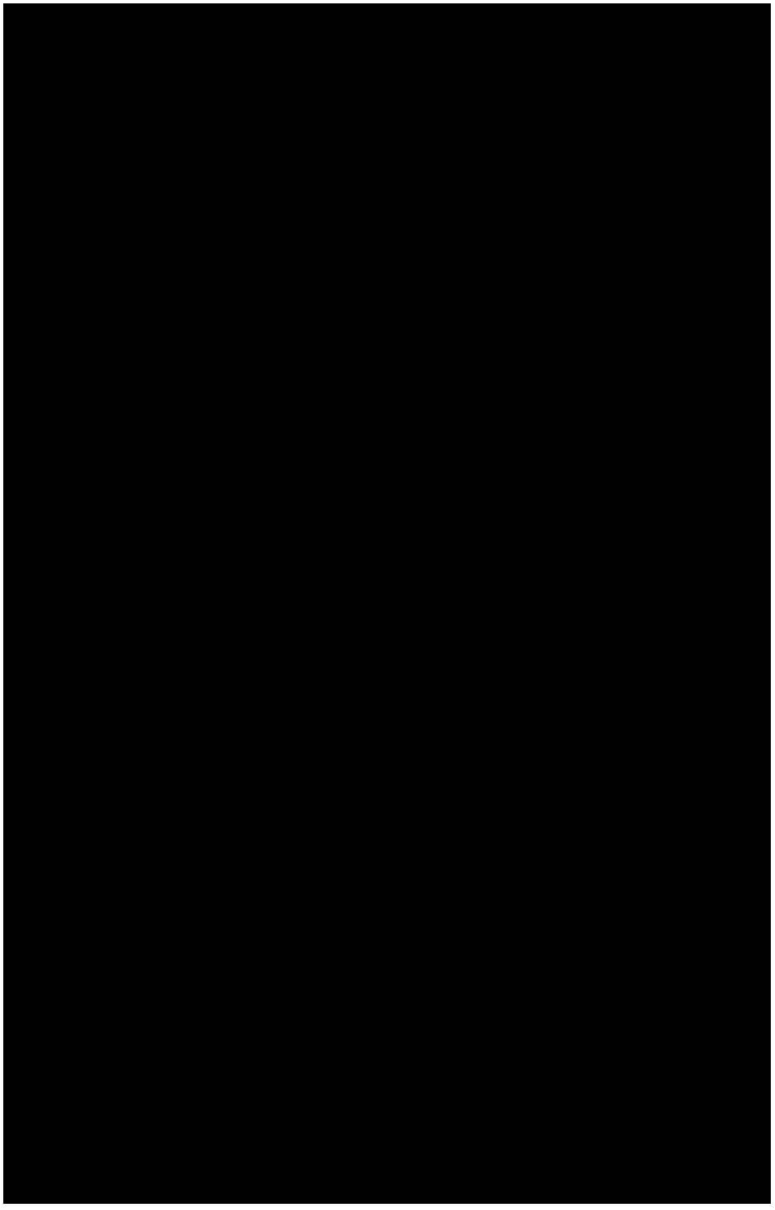
```
 10 VAC
 20 P=40
 30 GOSUB 360
 40 X=Z
 50 GOSUB 360
 60 Y=Z
 70 GOSUB 360
130 PRINT " BEAMS";
    P;" GO ";
140 IF P<0 THEN 600
150 PRINT "AREA 1 T
    O 50 ";
170 INPUT "AREA 1 I
    S",A
173 N=1
175 INPUT "AREA 2 I
    S",B
176 IF Y>45:N=5
177 IF Z<40:N=3
178 IF A+B<50:N=2
179 IF A+B>50:N=20
180 IF X=A:PRINT "Y
    OU GOT 2":Q=Q+2
    :GOTO 300
188 IF B=Q:PRINT "G
    OT ALL 3":Q=Q+3
    :GOTO 331
190 IF X=1:N=2
194 IF B=P:Q=Q+1:GO
    TO 300
220 IF A>Z:PRINT "Y
    OU GOT 1":Q=Q+1
    :GOTO 331
230 IF X<B:PRINT "Y
    OU GOT 1":Q=Q+1
    :GOTO 331
231 IF Y>B:PRINT "Y
    OU GOT 1":Q=Q+1
    :GOTO 331
232 IF Z>B:PRINT "Y
    OU GOT 1":Q=Q+1
    :GOTO 331
240 IF X=Z:PRINT "Y
    OU GOT 2":Q=Q+2
    :GOTO 300
282 PRINT " ";N;"BE
    AMS USED ";
300 PRINT " YOU SET
    ECT 1;AREA # IS
    ";A:GOSUB 365
301 INPUT " AREA #
    IS",A:GOTO 220
331 P=P-N:K=N
332 PRINT " ";K;"BE
    AM PER HIT";
333 IF K<2:PRINT "
    EXACT SCORE ";
334 GOTO 335
335 IF K<3:PRINT "
    NICE";
337 IF K=4:PRINT "
    GOOD";
339 IF K>6:PRINT "
    TOO MANY":GOTO
    342
340 P=P-N
341 PRINT " ";P;" B
    EAMS NOW";
342 IF P<0 THEN 600
343 PRINT " IN AREA
    ";A;
344 PRINT " & AREA"
    ;B;
345 PRINT " USED ";
    N;" BEAMS";
346 IF Q<0 THEN 30
350 GOTO 640
360 Z=INT (49*RND)+
    1)
365 X=INT (49*RND)+
    1)
370 RETURN
600 PRINT " ORDER B
    EAM SUPPLY";
640 PRINT " HIT ";Q
    ;" TARGET";
670 GOTO 30
```



Miles Per Gallon

Enter miles before at last time you put in gas EXE. Enter miles, now that your getting more gas, EXE. Enter gallons last time you got gas, EXE. Enter approx. amount of gas remaining now, EXE, EXE

```
10 CLS
20 INPUT "MILES BE
   FORE",B
40 INPUT "MILES NO
   W",C
60 INPUT "GALLONS
   THEN",D
62 INPUT "GALLONS
   LEFT",F
80 E=(C-B)/(D-F)
90 PRINT "M.P.G.=";
   E
100 GOTO 10
```



Run Bird Game

Object of this game is for five players to reach home. If one player lands on another, player must return to start.

If a player rolls a one or six EXE, EXE and enter the players roll EXE. Choose 2 or 1 to run or not to run EXE. First player or computer to run to 50, three times, wins. If a player stops another player EXE. Player rolling six, rolls and moves again. If a player rolls six and a player goes to 50, player rolling six looses the second roll.

```
10 VAC
15 PRINT "RUN BIRD
   ";
30 G=0:H=0
35 G=INT (6*RAN#+1
   )
37 K=INT (48*RAN#+
   1)
40 H=INT (6*RAN#+1
   )
45 L=INT (48*RAN#+
   1)
55 PRINT " G ROLLE
   D";G;" H ROLLED
   ";H;
60 IF I=3;PRINT "G
   WINS"
65 IF H=3;PRINT "3
   WON"
70 IF J=3;PRINT "H
   WINS"
75 IF N=3;PRINT "4
   WON"
80 IF G=1;PRINT "
   G ROLLED 1":GOT
   O 100
81 IF G=6;PRINT "
   G ROLLED 6":GOT
   O 100
85 GOTO 350
100 PRINT G
110 INPUT " G ROLL"
    ,O
120 IF G=O THEN 170
130 IF G<>O THEN 110
170 INPUT "2>IN,1>O
    UT",B
180 IF B=2;C=0:GOTO
     215
185 GOTO 989
190 IF B=1;PRINT "
    G IS AT";C;
215 IF G=6 THEN 992
216 IF K=0;D=D-D:PR
    INT "PLAYER 3 G
    OT H";N=N+1
217 IF K=C;C=C-C:PR
    INT "PLAYER 3 G
    OT G":M=M+1
220 IF C≥49;I=I+1:G
    OTO 981
240 IF C=D;D=D-D:GO
    TO 242
241 IF C<>D THEN 250
242 PRINT "G STOPPE
    D H";
250 GOTO 700
350 IF C=0 THEN 700
400 IF C≥1 THEN 420
410 GOTO 30
420 IF G=2 THEN 989
430 IF G=3 THEN 989
440 IF G=4 THEN 989
450 IF G=5 THEN 989
700 IF H=1;PRINT "
    H ROLLED 1":GOT
    O 710
701 IF H=6;PRINT "
    H ROLLED 6":GOT
    O 710
705 IF D≥1 THEN 974
707 GOTO 30
709 IF H=6 THEN 710
710 GOTO 720
720 PRINT H
730 INPUT "H ROLL",
    A
740 IF H=A THEN 910
745 IF H<>A THEN 730
910 INPUT "2>IN,1>O
    UT",E
920 IF E=2;D=0:GOTO
     30
925 GOTO 986
930 IF E=1;PRINT "
    H IS AT";D;
960 IF H=6 THEN 990
965 IF L=D;D=D-D:PR
    INT "PLAYER 4 G
    OT H";N=N+1
```

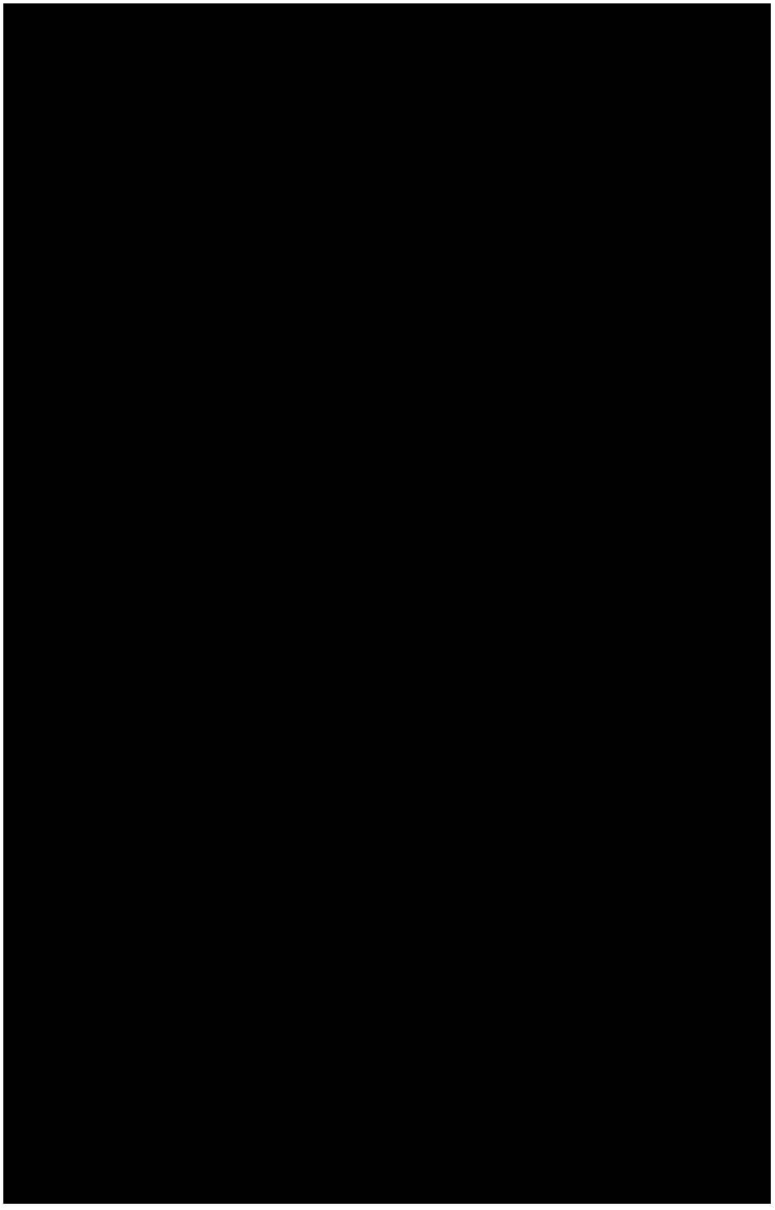
```
967 IF L=C:C=C-C:PR
    INT "PLAYER 4 G
    OT G":M=M+1
969 IF D>49:J=J+1:G
    OTO 980
970 IF D=C:C=C-C:GO
    TO 972
971 IF C<D THEN 973
972 PRINT "H STOPPE
    D G";
973 GOTO 30
974 IF H=2 THEN 986
975 IF H=3 THEN 986
976 IF H=4 THEN 986
977 IF H=5 THEN 986
980 D=0:GOTO 30
981 C=0:GOTO 30
986 D=D+H:GOTO 930
989 C=C+G:GOTO 990
990 H=INT (6*RND(1)+1
    )
991 GOTO 986
992 G=INT (6*RND(1)+1
    )
993 GOTO 989
```

List

Memory for daily date book, retaining future times and dates.

Enter 1, EXE to read or 0, EXE to write. Enter -1, 0, 1, 2, 3, 4, 5, 6 or 7 to write in those areas EXE. To not write in area chosen 0, EXE. To write in the area enter area # EXE. To read enter 11 EXE. Area -1 takes maximum 30 letters including spaces.

```
10 PRINT "LIST ";
13 PRINT " 1 EXE R
   EAD OR ";
14 INPUT "0 EXE WR
   ITE",P
16 IF P=1 THEN 80
17 IF P=0 THEN 190
18 INPUT "FOR NO -
   1,EXE 0",L
19 IF L=-1 THEN 19
   0
20 INPUT "-1,30 LE
   TTERS",$:GOTO 1
   90
25 INPUT "NO 0,EXE
    0",L
27 IF L=1 THEN 190
30 INPUT "0 ",A$(0
   ):GOTO 190
33 INPUT "NO 1,EXE
    0",L
34 IF L=1 THEN 190
35 INPUT "1 ",A$(1
   ):GOTO 190
37 INPUT "NO 2,EXE
    0",L
38 IF L=1 THEN 190
40 INPUT "2 ",A$(2
   ):GOTO 190
45 INPUT "NO 3,EXE
    0",L
47 IF L=1 THEN 190
50 INPUT "3 ",A$(3
   ):GOTO 190
55 INPUT "NO 4,EXE
    0",L
57 IF L=1 THEN 190
60 INPUT "4 ",A$(4
   ):GOTO 190
65 INPUT "NO 5,EXE
    0",L
67 IF L=1 THEN 190
70 INPUT "5 ",A$(5
   ):GOTO 190
71 INPUT "NO 6,EXE
    0",L
72 IF L=1 THEN 190
73 INPUT "6 ",A$(6
   ):GOTO 190
75 INPUT "NO 7,EXE
    0",L
76 IF L=1 THEN 190
79 INPUT "7 ",A$(7
   ):GOTO 190
80 PRINT "-1 ";$;"
    ";
90 PRINT "0 ";A$(0
   );" ";
92 PRINT "1 ";A$(1
   );" ";
93 PRINT "2 ";A$(2
   );" ";
100 PRINT "3 ";A$(3
    );" ";
110 PRINT "4 ";A$(4
    );" ";
120 PRINT "5 ";A$(5
    );" ";
130 PRINT "6 ";A$(6
    );" ";
140 PRINT "7 ";A$(7
    );" ";
190 INPUT "DO -1+7
    EXE OR 11 TO RE
    AD",B
200 IF B=-1 THEN 18
210 IF B=0 THEN 25
220 IF B=1 THEN 33
230 IF B=2 THEN 37
240 IF B=3 THEN 45
250 IF B=4 THEN 55
260 IF B=5 THEN 65
270 IF B=6 THEN 71
280 IF B=7 THEN 75
290 IF B=8 THEN 190
300 IF B=11 THEN 80
305 GOTO 13
```

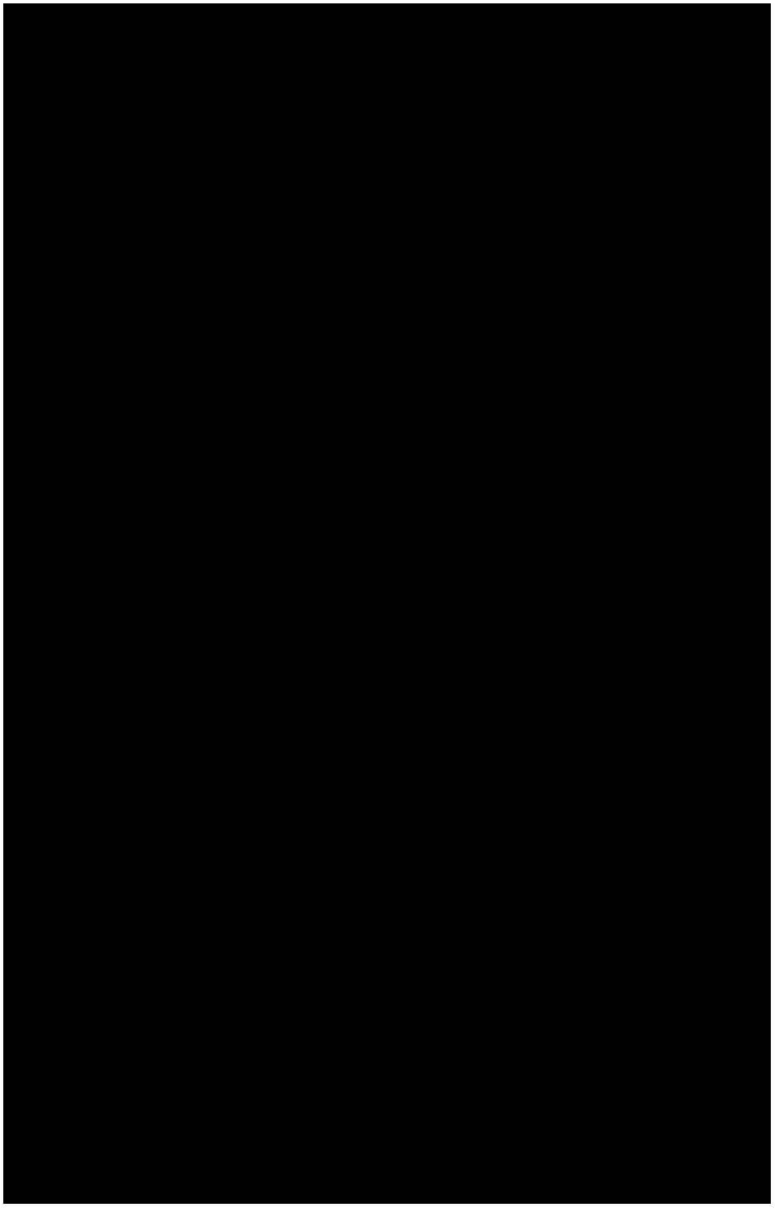


Test Reaction Game

Tests reaction time of player.

EXE when # on display changes push letter D An un-changed display # or display # and 1 is excellent. Exe for another try.

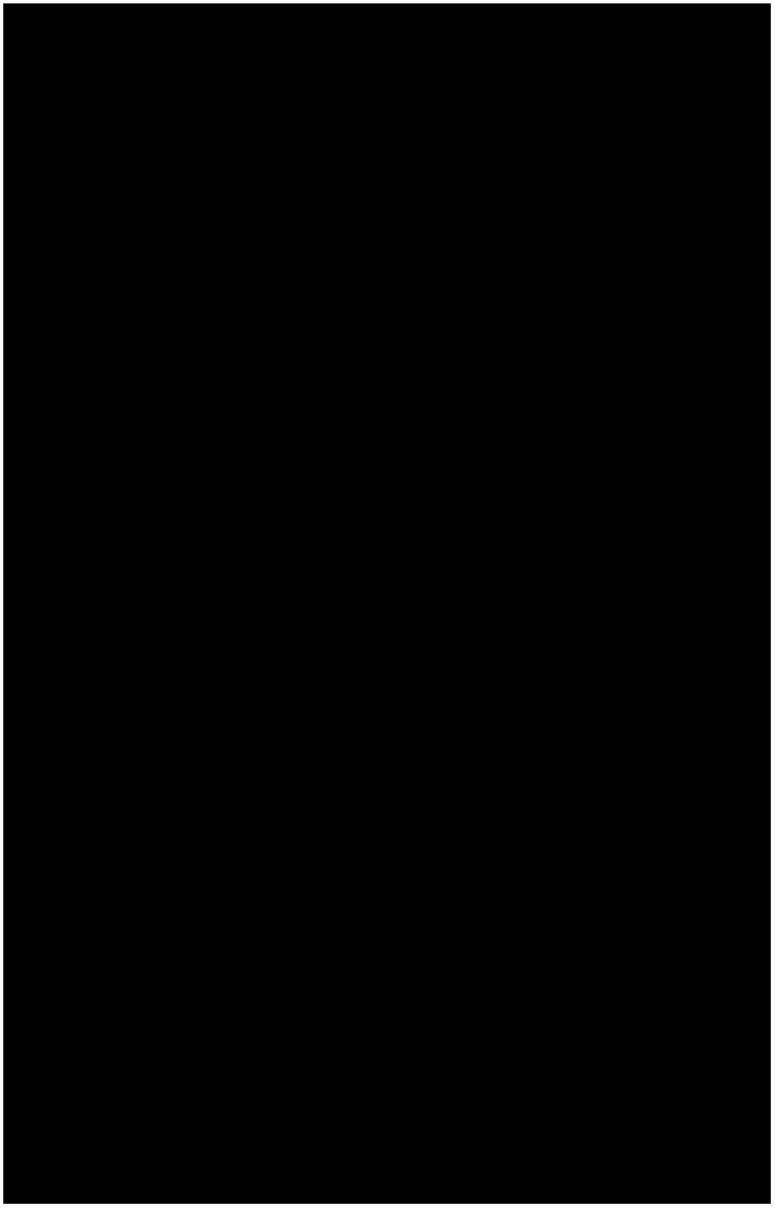
```
  1 PRINT "REACTION
    S "
 10 FOR A=1 TO 10
 20 PRINT CSR 1;2*A
    ;
 21 C$=KEY
 23 IF C$="D";A=10
 25 FOR B=1 TO 200
 26 C$=KEY:IF C$="D
    " THEN 100
 27 NEXT B
 30 NEXT A
 40 PRINT " END";A
100 PRINT B
110 GOTO 10
```



Craps

Equal to crap shoot game.
EXE, EXE...

```
 10 W=0:L=0:P=0
 40 FOR N=1 TO 1
 50 GOSUB 500
 60 IF C=7 THEN 80
 70 IF C=11 THEN 10
    0
 80 W=W+1
 90 GOTO 220
100 IF C=2 THEN 130
110 IF C=3 THEN 130
120 IF C=12 THEN 15
    0
130 L=L+1
140 GOTO 220
150 V=C
160 GOSUB 500
170 IF C=7 THEN 220
180 IF C=V THEN 210
190 P=P+1
200 GOTO 220
210 GOTO 160
220 NEXT N
230 PRINT "WIN";W;"
     LOSS";L;" POIN
    T WIN";P;":"
240 GOTO 10
500 C=INT (6*RND(0)+1
    )
510 A=INT (6*RND(0)+1
    )
520 C=C+A
530 RETURN
```

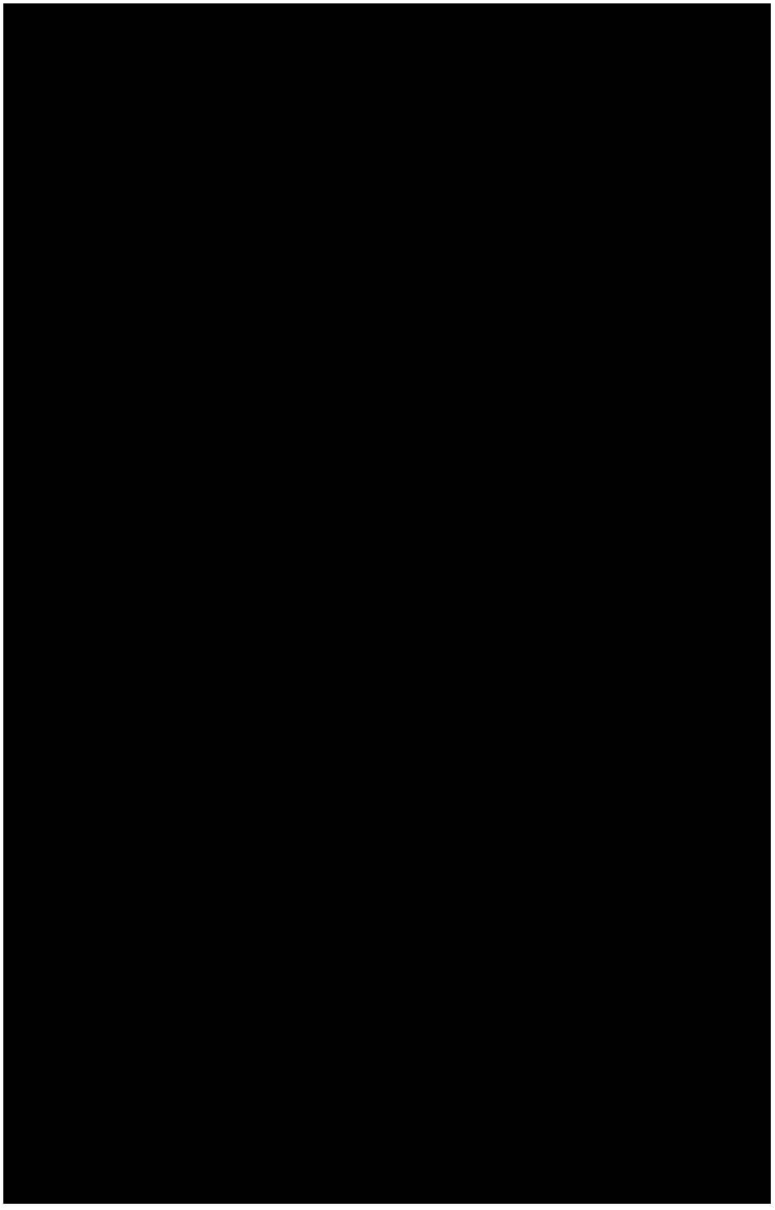


Register Color Code for Learning Game

Coordinating colors and numbers memory game.

Enter a color EXE. to take the test type EXE and enter the # of the color EXE.

```
 10 A$(0)="BLACK":A
    $(1)="BROWN":A$
    (2)="RED":A$(3)
    ="ORANGE"
 20 A$(4)="YELLOW":
    A$(5)="GREEN":A
    $(6)="BLUE":A$(
    7)="PURPLE"
 30 A$(8)="GRAY":A$
    (9)="WHITE"
100 FOR R=1 TO 250
101 NEXT R
103 PRINT CSR 0;"*_
    _*__*__*__*";:PR
    INT CSR 0;"COLO
    R OR.";
104 INPUT "FOR TEST
    ,WRITE TEST,EXE
    ",K$
106 IF K$="TEST" TH
    EN 150
110 FOR Q=0 TO 9
120 IF K$=A$(Q);PRI
    NT K$;" IS ";Q;
    :GOTO 100
130 NEXT Q
140 PRINT "TRY AGAI
    N...";:GOTO 100
150 S=INT (RND*10)
151 PRINT "WHAT # I
    S ";A$(S);
160 INPUT T
170 IF S=T;PRINT "R
    IGHT! ";:GOTO 1
    90
180 PRINT " WRONG,I
     SAID ";A$(S);:
    GOTO 160
190 S=INT (RND*10)
    :PRINT A$(S);:G
    OTO 160
```

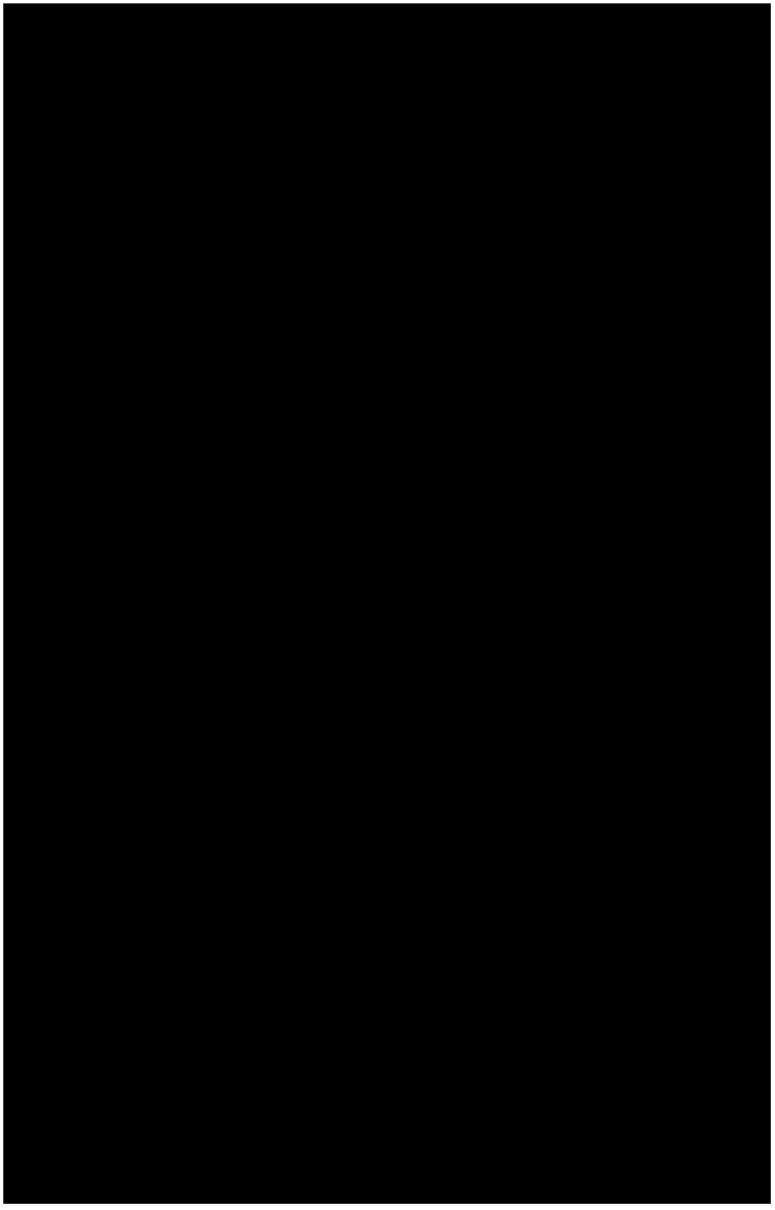


Pseudo Probability Level

Gives your current level of energy in comparison to your estimate of your current level of energy.

Press a # until level is given EXE AC to stop program.

```
  1 GOSUB 200
  5 D=0
 10 A$=KEY
 11 IF A$=" " THEN
    10
 20 IF A$<"0" THEN
    100
 30 IF A$>"9" THEN
    100
 35 D=D+1
 40 IF VAL(A$)=INT
    (RAN#*10):PRINT
     CSR 0;"*******
    *";D;:GOTO 10
 50 PRINT CSR 0;"LE
    VEL IS";D:GOTO
    5
100 PRINT CSR 0;"HO
    LD # ON";:GOTO
    5
140 GOTO 10
200 FOR C=1 TO 150
210 NEXT C:RETURN
```

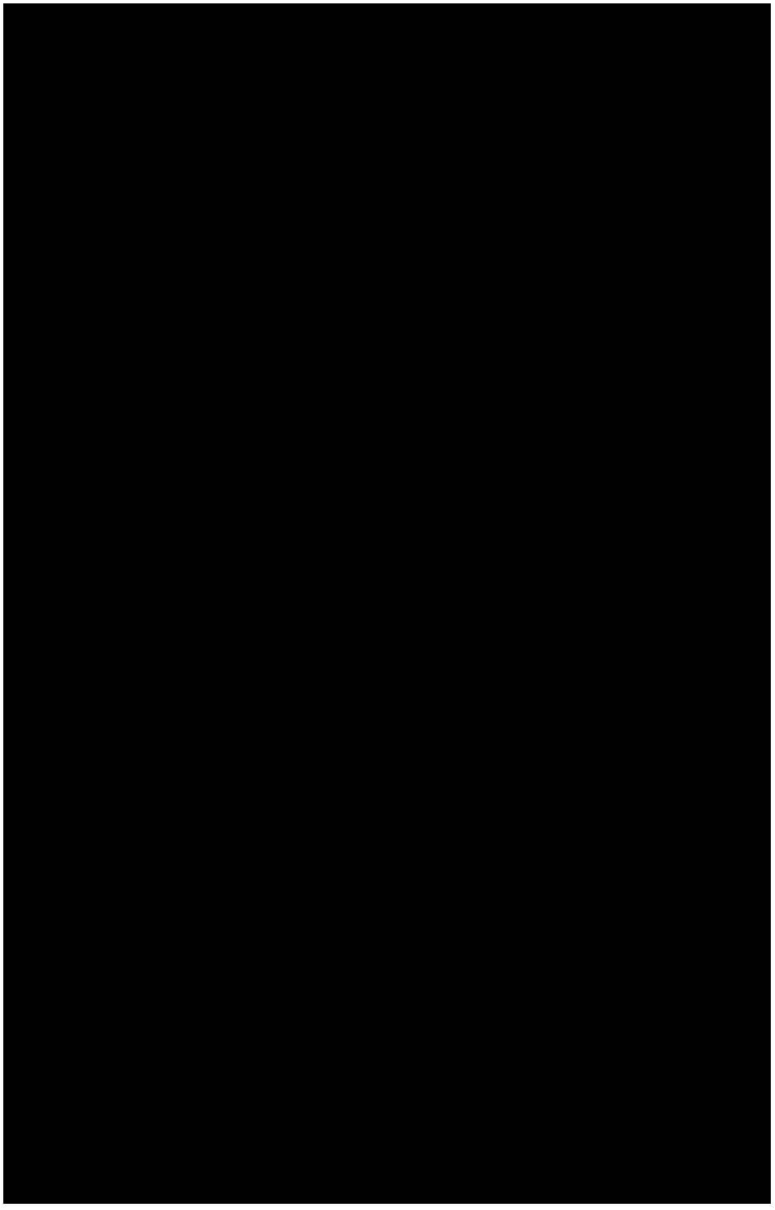


Guessing Game

Computer chooses #. You choose a # trying to match. Scores kept.

Enter # of guess EXE, EXE

```
 4 C=0
 5 A$=KEY
10 INPUT "GUESS #
   IS",A$
15 IF A$=" " THEN
   10
25 B=INT (RND*10)
26 C=C+1
30 IF VAL(A$)=B TH
   EN 40
32 PRINT CSR 0;"NO
   ..IT WAS";B
34 GOTO 10
40 PRINT CSR 0;"RI
   GHT!! ";
45 PRINT C;" TRIES
   ":C=0:GOTO 10
```

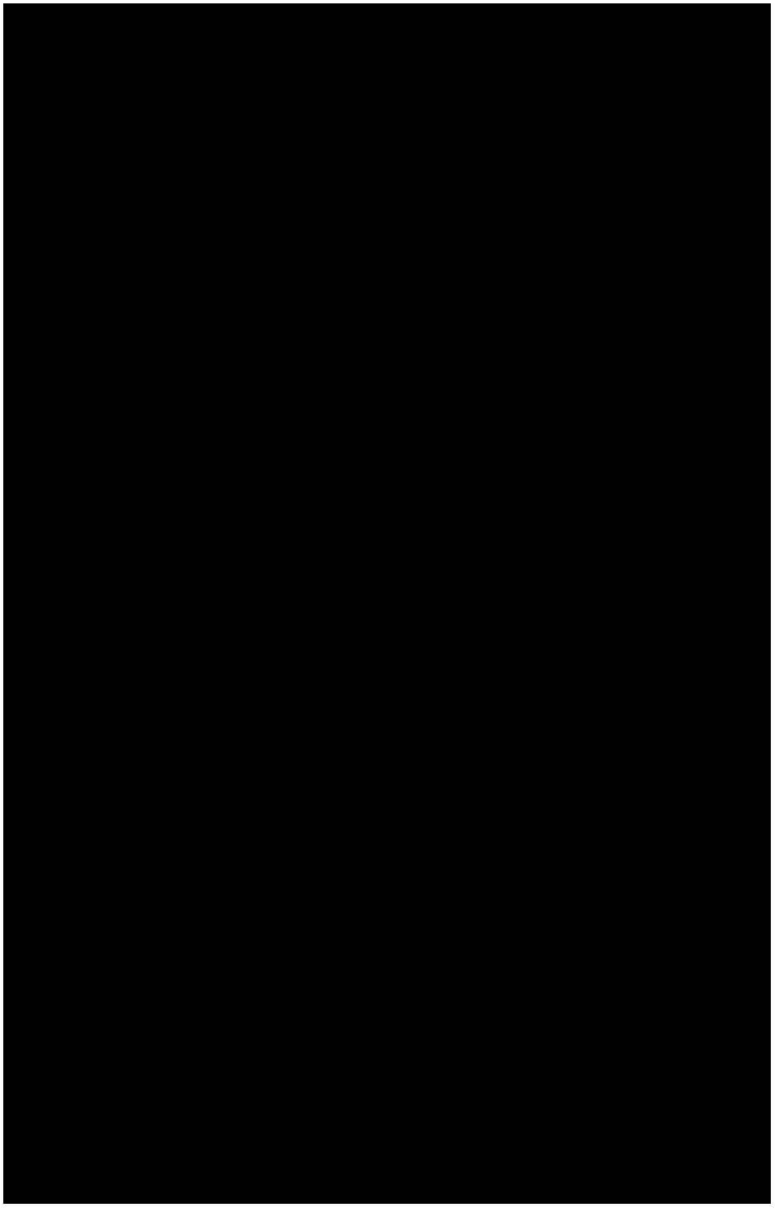


Graphics

Create graphic designs which can be used for creative display.

EXE enter an extension symbol, mode, decimal point, shift, symbol, shift, symbol, shift, symbol, shift symbol, each followed by EXE. To stop program and try new symbols and or whatever press AC, MODE, 0, SHIFT, 0

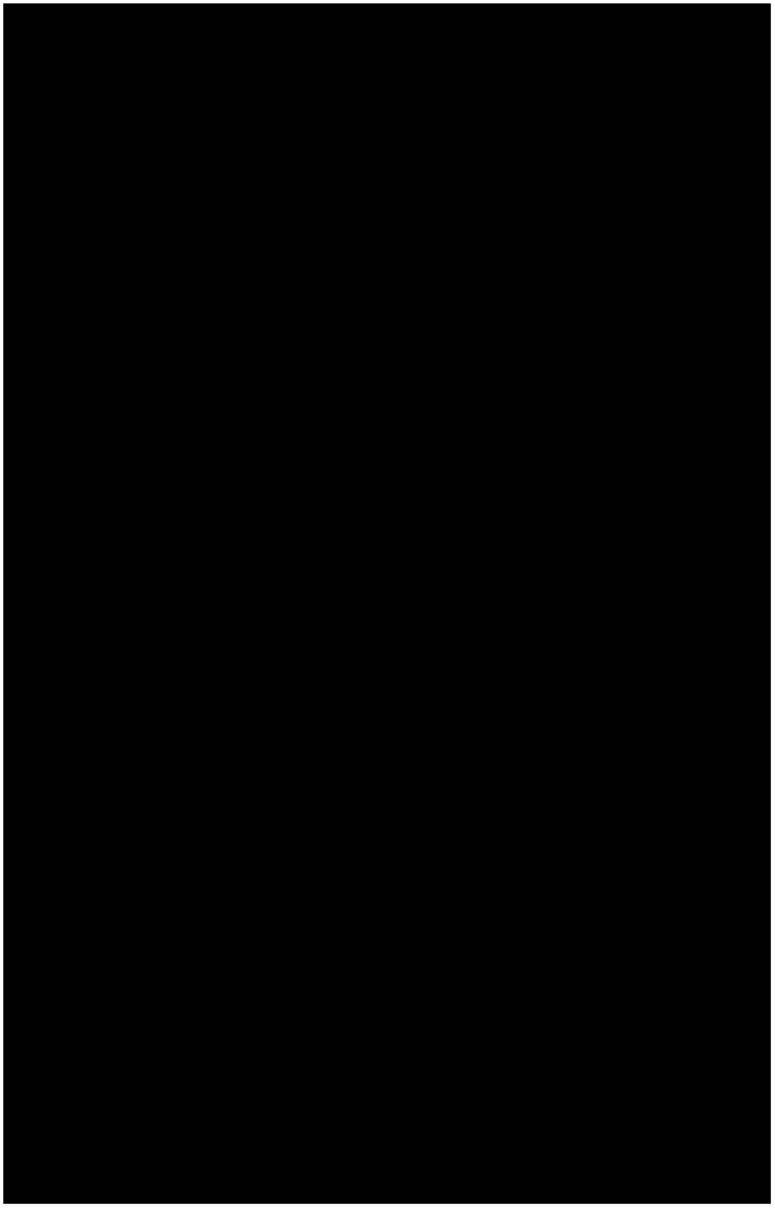
```
1 PRINT "GRAPHICS
  "
2 INPUT A$,B$,C$,
  D$
6 PRINT CSR 0;C$;
7 PRINT CSR 11;A$
  ;
8 FOR I=1 TO 60:N
  EXT I
10 PRINT CSR 10;A$
  ;
11 FOR I=1 TO 55:N
  EXT I
20 PRINT CSR 9;A$;
21 FOR I=1 TO 50:N
  EXT I
30 PRINT CSR 8;A$;
31 FOR I=1 TO 45:N
  EXT I
40 PRINT CSR 7;A$;
41 FOR I=1 TO 40:N
  EXT I
50 PRINT CSR 6;A$;
51 FOR I=1 TO 35:N
  EXT I
60 PRINT CSR 5;A$;
61 FOR I=1 TO 30:N
  EXT I
70 PRINT CSR 4;A$;
71 FOR I=1 TO 25:N
  EXT I
80 PRINT CSR 3;A$;
81 FOR I=1 TO 20:N
  EXT I
90 PRINT CSR 2;A$;
91 FOR I=1 TO 15:N
  EXT I
100 PRINT CSR 1;A$;
101 FOR I=1 TO 10:N
  EXT I
110 PRINT CSR 0;B$;
120 PRINT CSR 11;C$
  ;
121 FOR I=1 TO 50:N
  EXT I
130 PRINT CSR 11;B$
  ;
131 FOR I=1 TO 50:N
  EXT I
140 PRINT CSR 11;D$
  ;
141 FOR I=1 TO 50:N
  EXT I
150 PRINT CSR 11;B$
  ;
151 FOR I=1 TO 50:N
  EXT I
160 PRINT CSR 11;C$
  ;
161 FOR I=1 TO 50:N
  EXT I
170 PRINT CSR 11;B$
  ;
171 FOR I=1 TO 50:N
  EXT I
180 PRINT CSR 11;D$
  ;
181 FOR I=1 TO 50:N
  EXT I
191 PRINT CSR 6;C$;
192 FOR I=1 TO 20:N
  EXT I
193 PRINT CSR 5;D$;
194 FOR I=1 TO 20:N
  EXT I
195 PRINT CSR 4;D$;
196 FOR I=1 TO 20:N
  EXT I
197 PRINT CSR 3;D$;
198 FOR I=1 TO 20:N
  EXT I
199 PRINT CSR 2;D$;
200 FOR I=1 TO 20:N
  EXT I
210 GOTO 6
```



Running Totals

Gives running totals while purchasing long list of items.
Enter #, EXE. To clear, enter the current # as a negative, EXE.

```
  1 PRINT "RUNNING
    TOTALS:";
 47 PRINT A;"+";
 54 IF A=0 THEN 90
 56 INPUT B
 60 A=A+B
 80 GOTO 47
 90 VAC
100 GOTO 56
```

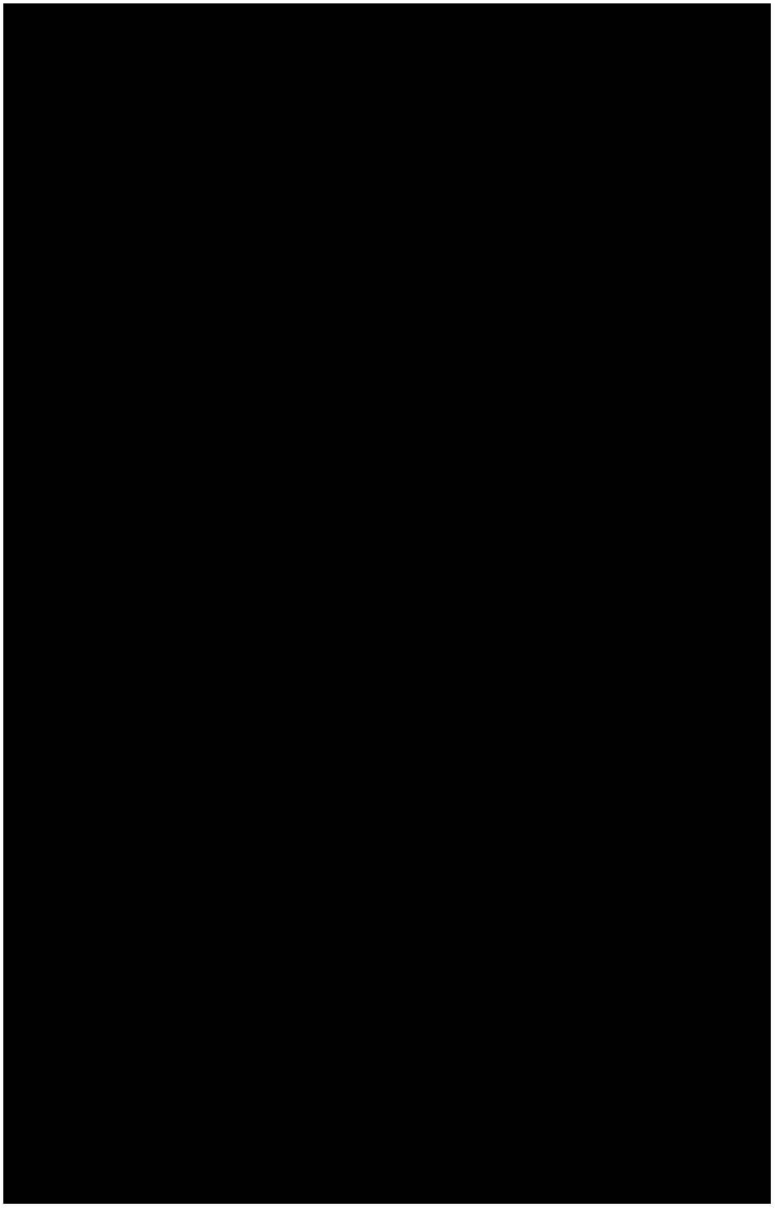


Straight Driving Game

Try to stay within road lines.

Enter a # that won't cause a crash and acquire points every time car is at 3. For under steering use negative #'s EXE

```
1 PRINT "STRAIGHT DR
IVIN:";
5 VAC
10 A=INT (5*RAND+1)
20 PRINT " CAR AT";A
;
25 C=C+1
30 IF A=1 THEN 150
40 IF A=5 THEN 100
50 IF A=3;H=H+1:GOTO
 210
60 IF A=2 THEN 173
70 IF A=4 THEN 150
80 IF A≥6 THEN 180
100 INPUT " UNDER ST
EER ",B
110 A=B+A
120 A=ABS A
130 GOTO 190
150 INPUT " STEER ",
B
160 A=A+B
170 A=ABS A
171 GOTO 180
173 IF A=2;A=0
175 INPUT " OVER STE
ER ",B
177 A=A+B
179 A=ABS A
180 IF A≥6;PRINT "CR
ASH":GOTO 240
190 IF A≤0;PRINT "CR
ASH":GOTO 240
210 IF C≥10;PRINT "
SCORE ";H:GOTO 5
230 GOTO 10
240 GOTO 5
```

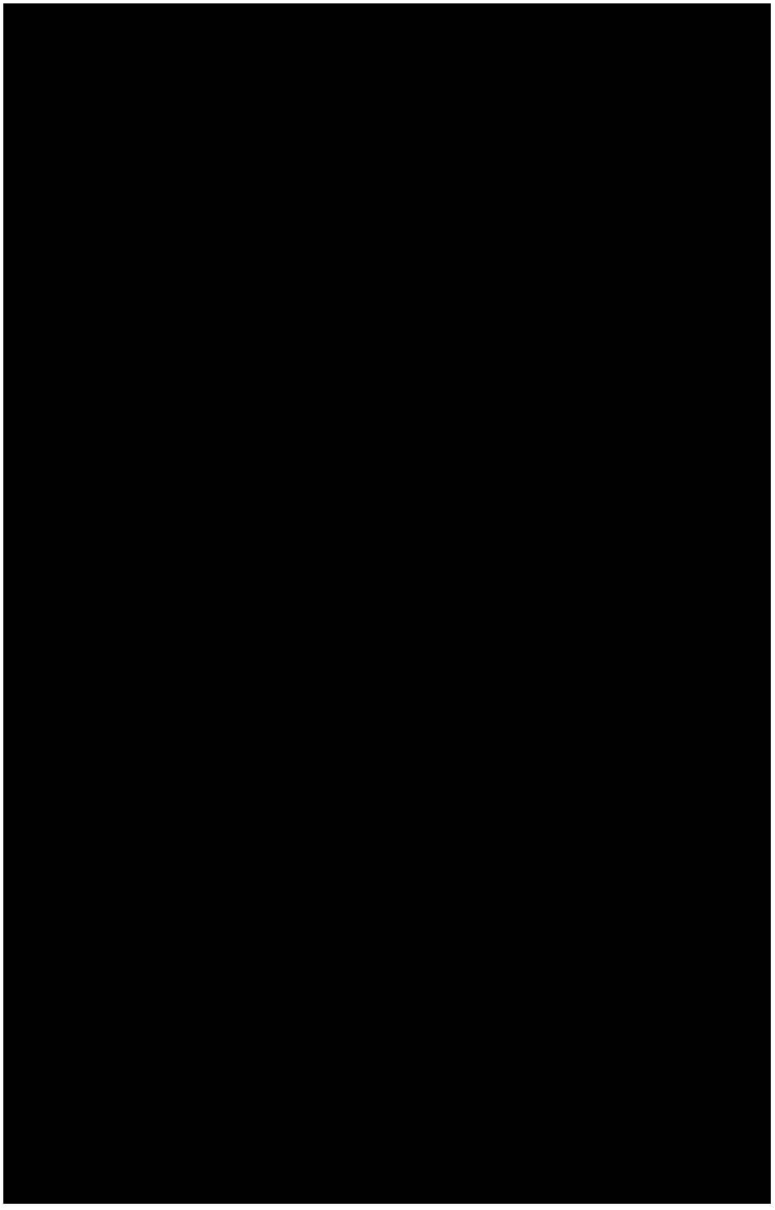


Life Totals

Date started any given occurance, total days to date.

Enter date of the past first then a date closest to now or now. If you want to use the amount of days to be multiplied by some # enter the # EXE. To change the second date enter 1, EXE. If not enter 0, EXE to do another multiplication.

```
1 PRINT "LIFE-TOTALS
:";
10 VWC
20 INPUT "MONTH",D
30 INPUT "DAY",E
40 INPUT "YEAR",F
50 G=0:H=0:I=0
60 INPUT "MONTH",G
70 INPUT "DAY",H
80 INPUT "YEAR",I
90 J=(D*30.4375)+(E-
30.4375)
100 K=(G*30.4375)+(H
-30.4375)
110 N=I-F
120 O=N*365.25
130 P=(I-F)*365.25
140 Q=K-J+P
150 L=Q:L=ABS L
160 PRINT "DAYS=";L
170 INPUT "TIMES DAY
S",O
180 IF O=0 THEN 170
190 R=L
200 P=R+O
210 PRINT "TOTAL=";P
220 INPUT "CHANGE DA
TE PUSH 1",M
230 IF M=1 THEN 50
240 GOTO 170
```

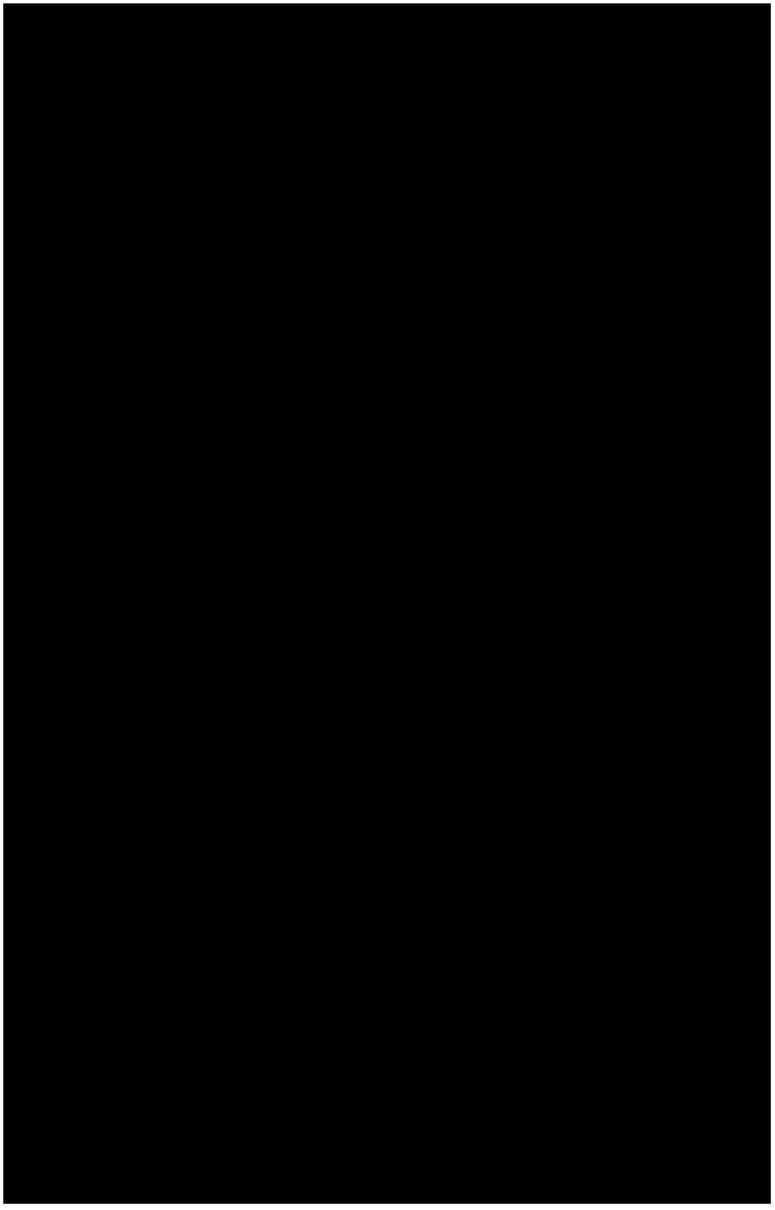


Bio-Rhythm

Gives level of each wave of bio-rhythm.

Enter birth date enter a more contemporary date or the date today. Choose a cycle # EXE, EXE until second date appears and study other dates or cycles. No readout is entering new cycle.

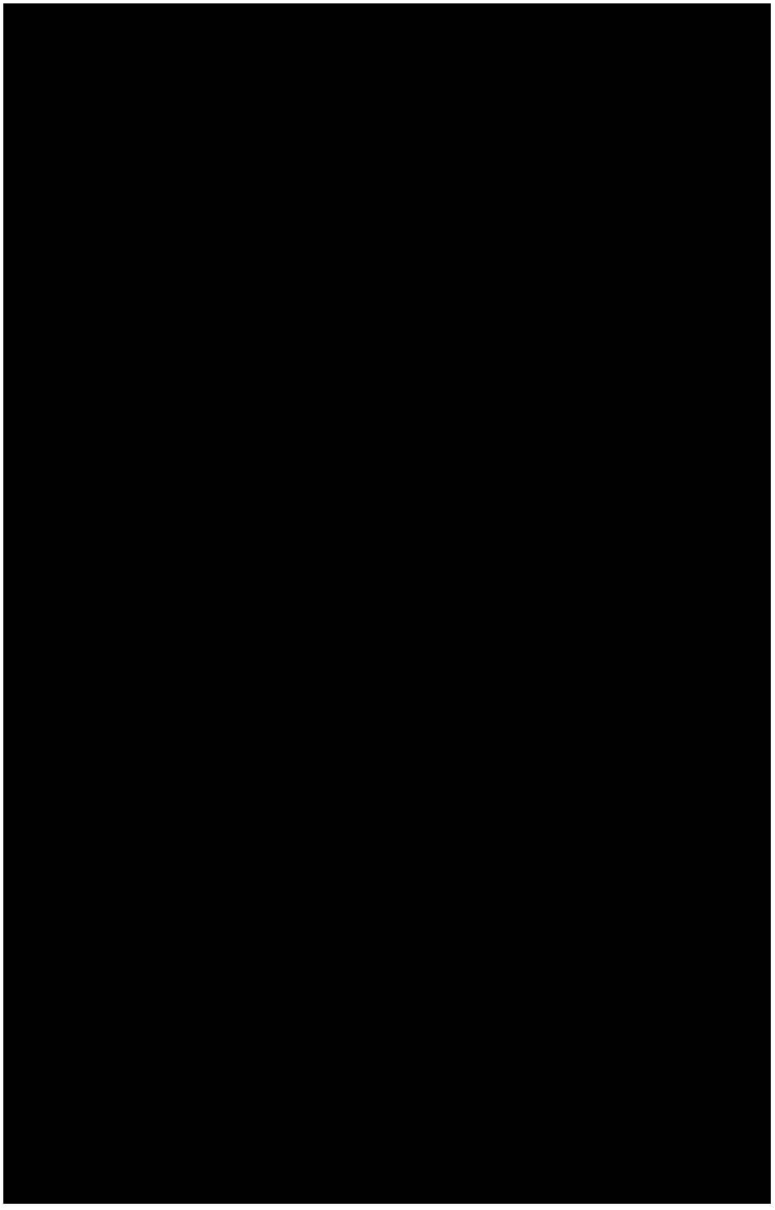
```
 [ PRINT "BIO-RHYT
   HM:";
10 VAC
20 INPUT "MONTH OF
    B.",D
30 INPUT "DAY OF B
   .",E
40 INPUT "YEAR",F
50 G=0:H=0:I=0
60 INPUT "MONTH NO
   W",G
70 INPUT "DAY NOW"
   ,H
80 INPUT "YEAR NOW
   ",I
90 INPUT "CYCLE,23
   ,28,33",U
100 J=(D*30.4375)+(
   E-30.4375)
110 K=(G*30.4375)+(
   H-30.4375)
120 M=I-F
130 O=M*365.25
140 P=(I-F)*365.25
150 Q=K-J+P
160 R=INT (Q/U)
170 S=INT (R*U)-Q
180 T=INT (S)
190 IF T>-6;PRINT "
   HIGH";T
200 IF T<-10;PRINT
   "LOW";T
210 IF T<-12;PRINT
   "EVEN ";T
220 IF T<-23;PRINT
   "EVEN ↓";T
230 IF T>-1;PRINT "
   EVEN ↑";T
240 GOTO 50
```



Deal a five card hand of poker.

Deals a five card poker hand.
When "the hand" appears EXE, EXE, EXE, EXE, EXE, EXE.

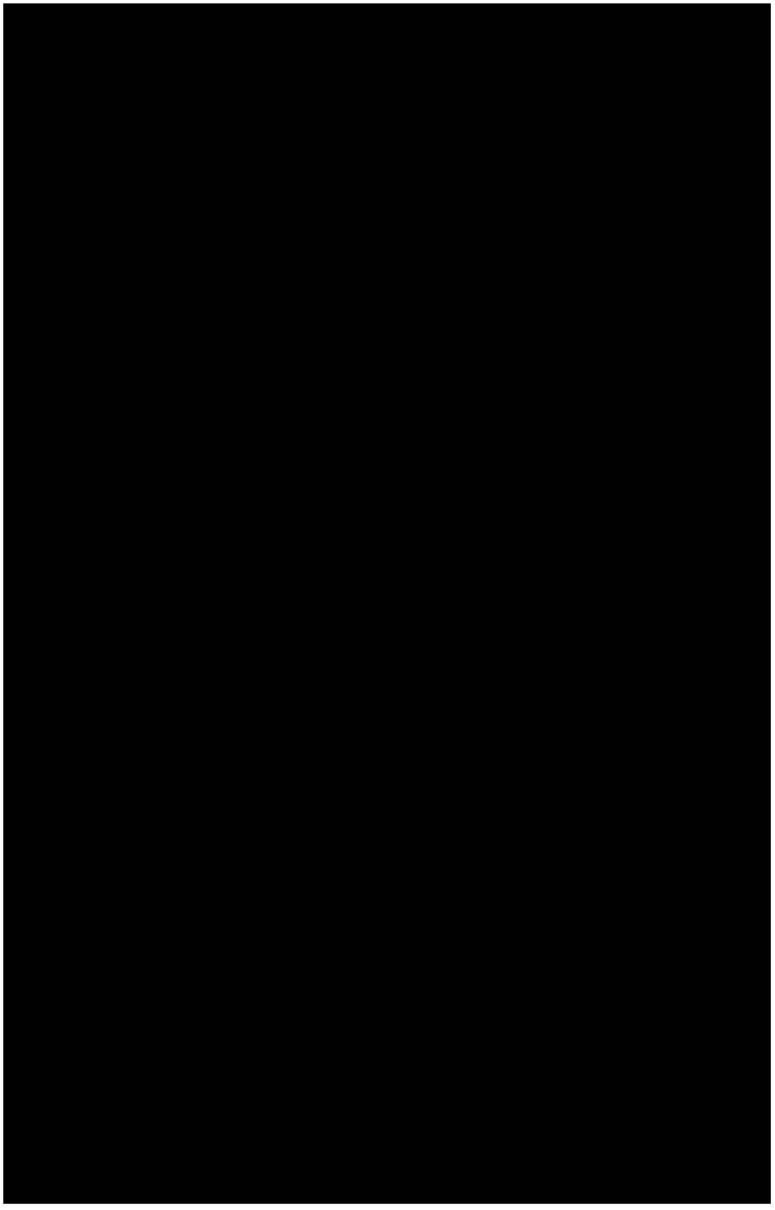
```
 10 PRINT "DEAL:";
 20 VAC
 95 O=INT (10*RAN#+
    1)
 96 P=INT (266*RAN#
    +1)
 98 IF P<251 THEN 9
    5
166 6$="f"
167 D$="+"
168 E$="*"
169 F$="#"
170 V$="QUEEN"
171 W$="KING"
172 X$="JACK"
173 IF H>2:Z=P:GOTO
    300
174 GOTO 300
251 PRINT X$;" OF "
    ;E$:GOTO 300
252 PRINT V$;" OF "
    ;E$:GOTO 300
253 PRINT W$;" OF "
    ;E$:GOTO 300
254 PRINT X$;" OF "
    ;F$:GOTO 300
255 PRINT V$;" OF "
    ;F$:GOTO 300
256 PRINT W$;" OF "
    ;F$:GOTO 300
257 PRINT X$;" OF "
    ;D$:GOTO 300
258 PRINT V$;" OF "
    ;D$:GOTO 300
259 PRINT W$;" OF "
    ;D$:GOTO 300
260 PRINT X$;" OF "
    ;G$:GOTO 300
261 PRINT V$;" OF "
    ;G$:GOTO 300
262 PRINT W$;" OF "
    ;G$:GOTO 300
263 PRINT O;" OF ";
    G$:GOTO 300
264 PRINT O;" OF ";
    D$:GOTO 300
265 PRINT O;" OF ";
    E$:GOTO 300
266 PRINT O;" OF ";
    F$:GOTO 300
300 H=H+1
310 IF H=1;Q=P:H=2:
    GOTO 95
315 IF Z=Q;H=H-1:GO
    TO 95
320 IF H=3;R=Z:GOTO
     95
325 IF Z=Q;H=H-1:GO
    TO 95
327 IF Z=R;H=H-1:GO
    TO 95
330 IF H=4;S=Z:GOTO
     95
332 IF Z=Q;H=H-1:GO
    TO 95
334 IF Z=R;H=H-1:GO
    TO 95
336 IF Z=S;H=H-1:GO
    TO 95
340 IF H=5;T=Z:GOTO
     95
342 IF Z=Q;H=H-1:GO
    TO 95
344 IF Z=R;H=H-1:GO
    TO 95
346 IF Z=S;N=N-1:GO
    TO 95
349 IF Z=T;H=H-1:GO
    TO 95
350 IF H=6;U=Z
360 IF H=6;PRINT "T
    HE HAND":GOTO Q
370 IF H=7 THEN 400
380 IF H=8 THEN 410
385 IF H=9 THEN 420
390 IF H=10 THEN 43
    0
395 IF H=11 THEN 44
    0
400 GOTO R
410 GOTO S
420 GOTO T
430 GOTO U
440 GOTO 20
```



Ship, Capt., Crew Game

Object is to have rolled a 6, 5, 4 and largest amount of last two dice. If you want to roll for more points enter 1 if you want to keep what you have enter 0. If final has not the 6, 5, 4 the hand is considered worthless.

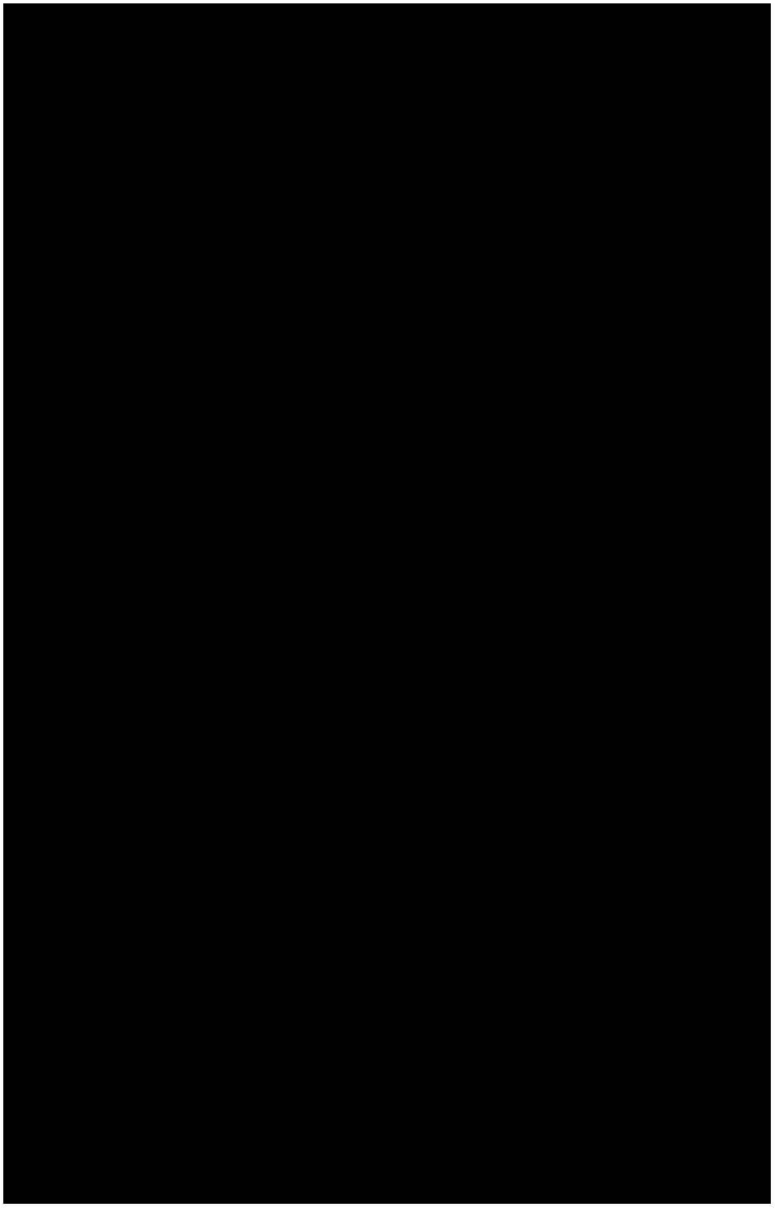
```
  5 PRINT "SHIP,CAP
    T.,CREW:";
 10 VAC
 20 A=INT (6*RAN#+1
    )
 30 B=INT (6*RAN#+1
    )
 40 C=INT (6*RAN#+1
    )
 45 IF H=3 THEN 390
 50 D=INT (6*RAN#+1
    )
 60 E=INT (6*RAN#+1
    )
 70 PRINT A;B;C;D;E
    ;":";
 78 H=H+1
 80 IF D=4;D=C:C=4
 81 IF D=5;D=B:B=5
 82 IF D=6;D=A:A=6
 83 IF E=4;E=C:C=4
 84 IF E=5;E=B:B=5
 85 IF E=6:E=A:A=6
 89 IF A=6;A=6
 90 IF B=6;B=A:A=6
100 IF C=6;C=A:A=6
130 IF A=5;A=B:B=5
140 IF B=5;B=5
150 IF C=5;C=B:B=5
180 IF A=4;A=C:C=4
190 IF B=4;B=C:C=4
193 IF C=4;C=4
198 GOTO 260
250 GOTO 255
260 IF A=6 THEN 329
270 IF B=5 THEN 349
280 IF C=4 THEN 40
285 IF H=3 THEN 390
287 PRINT "ROLLS TA
    KEN";H;":";
288 'PRINT A;B;C;D;E
    ;":";
290 INPUT " ROLL 2
    DICE PUSH 1",1
300 IF 1=1 THEN 50
320 GOTO 390
329 IF H=3 THEN 390
330 A=INT (6*RAN#+1
    )
331 D=INT (6*RAN#+1
    )
332 E=INT (6*RAN#+1
    )
340 GOTO 78
349 IF H=3 THEN 390
350 B=INT (6*RAN#+1
    )
360 D=INT (6*RAN#+1
    )
370 E=INT (6*RAN#+1
    )
380 GOTO 78
390 PRINT "FINAL";A
    ;B;C;D;E;":";
400 GOTO 10
```



Clock

Enter hour, EXE min., EXE when time is ripe. To adjust change 1200 on line #46 more or less. Press AC to stop program. Press letter T to display time.

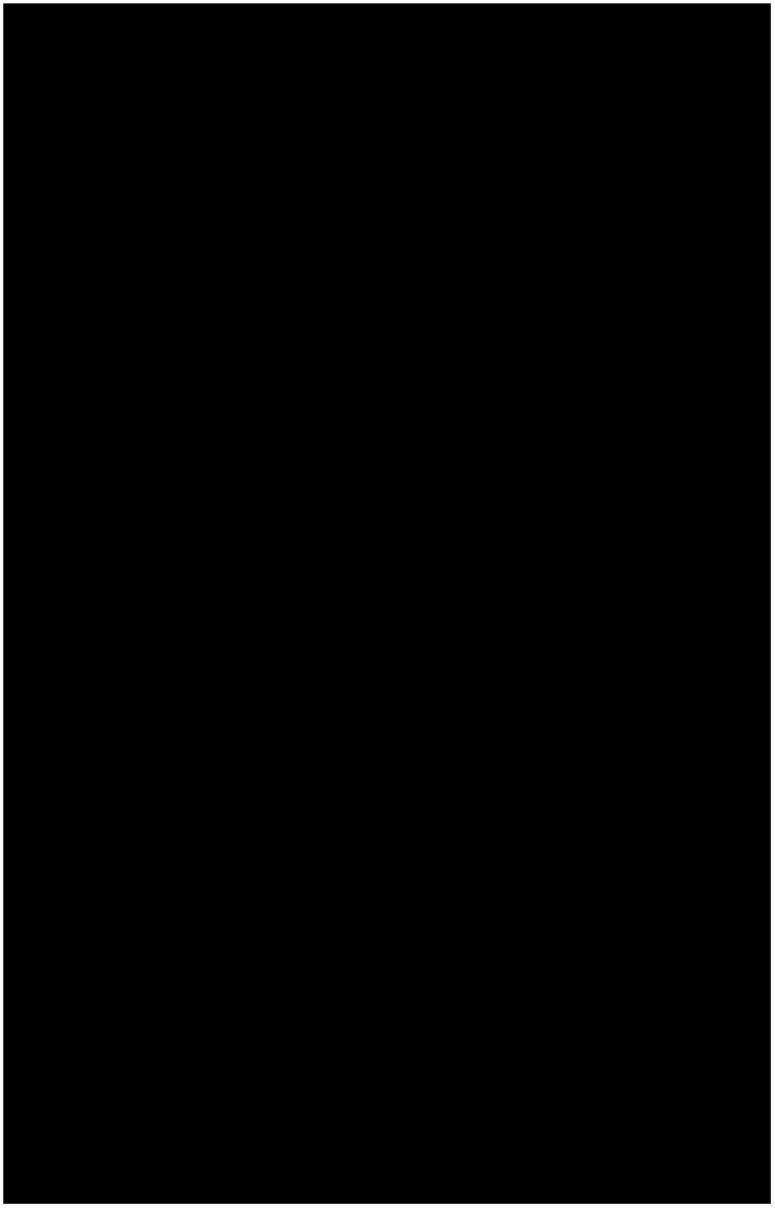
```
 10 PRINT "CLOCK:":
 15 VAC
 20 INPUT "HOUR,MIN
    ,,";H,M
 23 N=0
 25 O=70
 30 FOR N=0 TO O
 40 A$=KEY
 45 Z=Z+1
 46 IF Z=1200:M=M+1
    :Z=0
 80 IF N≥60:N=N+1
 90 IF N=60:H=H+1:N
    =0
 95 IF H=13:H=1
 96 IF A$="T":PRINT
     "H";H;":";M;N;
 97 PRINT " ";" ";"
    ";"";"";
100 IF N≥60:N=0
101 IF A$="T":H=H+5
102 IF N≥60:N=N-60:
    M=M+1
103 NEXT N
```



Stop Watch

EXE press letter S to stop watch. Enter 1 to keep the time previously recorded. Enter 0 to clear from new timing job. Adjust at line #101 & 150 equally.

```
  1 VAC
  5 PRINT "STOP WAT
    CH"
  6 N=N
 10 FOR N=N TO 1860
    0
 15 0$=KEY
 20 IF 0$="S":N=186
    00
 25 FOR B=1 TO 1860
    0
 30 0$=KEY:IF 0$="S
    " THEN 150
 35 NEXT B
 40 NEXT N
100 PRINT B;" SEC."
    ;":";
101 B=B*29.8
102 INPUT "1 TO KEE
    P TIME";A
104 IF A=1 THEN 35
110 GOTO 1
150 B=B/29.8
170 GOTO 100
```

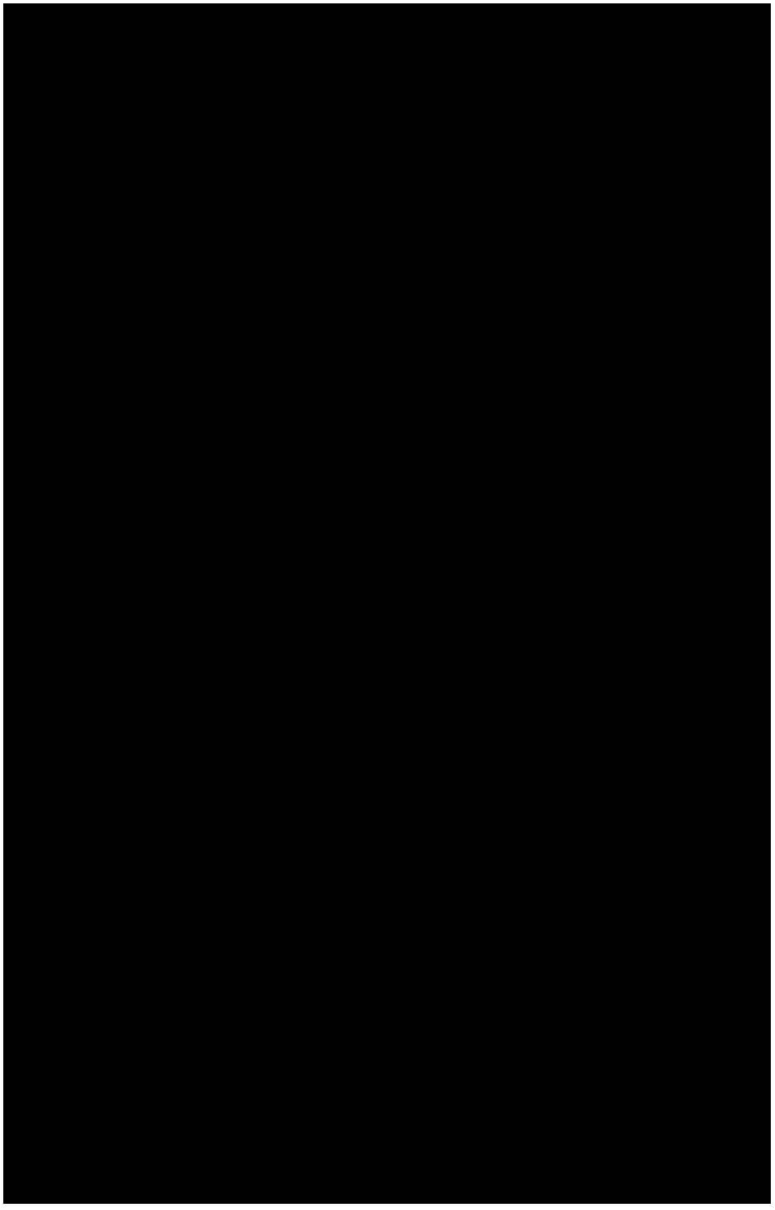


Non-Sentences Game

Read printout for messages.

Expand memory Mode, 0, Shift, DEFM 30 EXE. Read on...

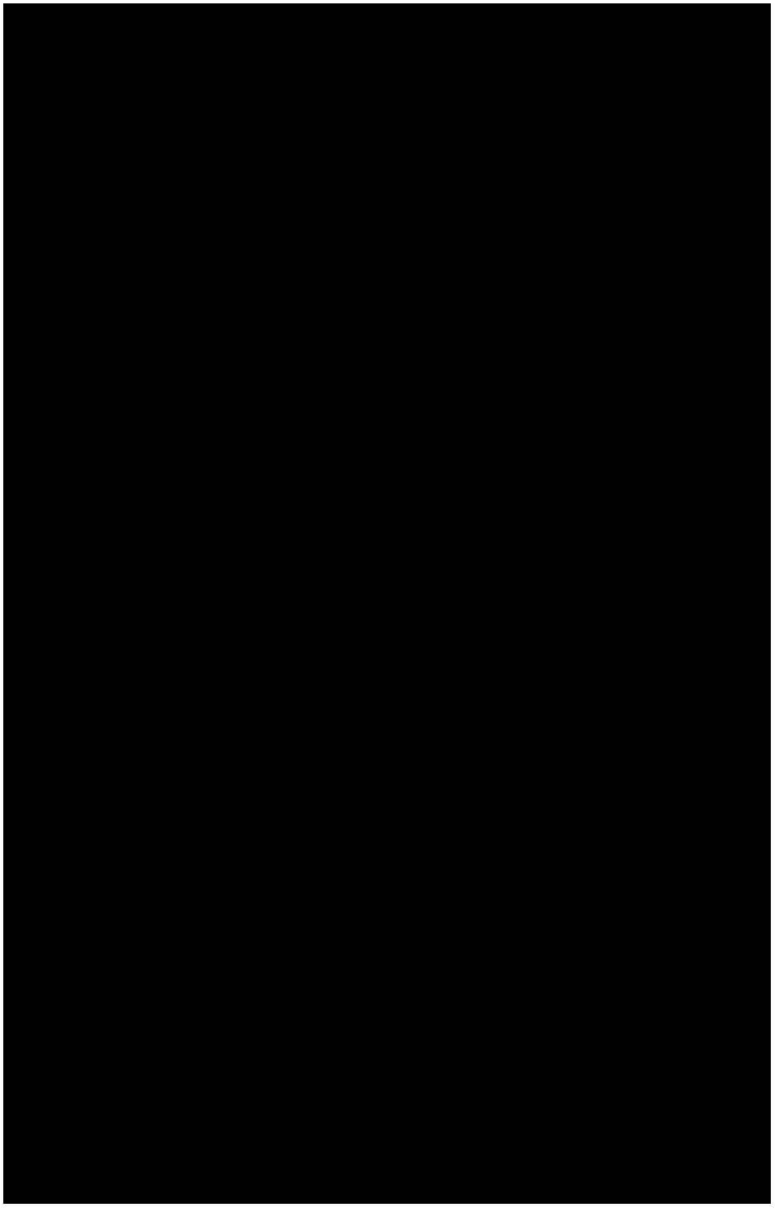
```
 1 PRINT "NON-SENC
   ETENCES:";
 3 Y=3
 5 FOR Z=0 TO Y
10 N=INT (34*RAN#)
30 A$(0)="OH":A$(1
   )="WOW":A$(2)="
   YEA":A$(3)="GRE
   AT"
31 A$(4)="SUPER":A
   $(5)="GIVE":A$(
   6)="SO":A$(7)="
   TRY"
32 A$(8)="REALLY":
   A$(9)="SURE":A$
   (10)="BEST":A$(
   11)="GO"
33 A$(12)="TRUE":A
   $(14)="O.K.":A$
   (15)="IS"
34 A$(16)="LIKE":A
   $(17)="FIND":A$
   (18)="AS":A$(19
   )="GET UP"
35 A$(27)="PLEASE"
   :A$(28)="TO":A$
   (29)="GOOD":A$(
   30)="BIG"
36 A$(31)="JUST":A
   $(32)="FOR":A$(
   33)="THEN"
37 Y=0:Z=0
38 PRINT A$(N);" "
   ;
39 NEXT Z
```



Bio-Rhythm Printout 1 Year

Enter birth date, EXE. Enter todays date, EXE. Use with printer only.

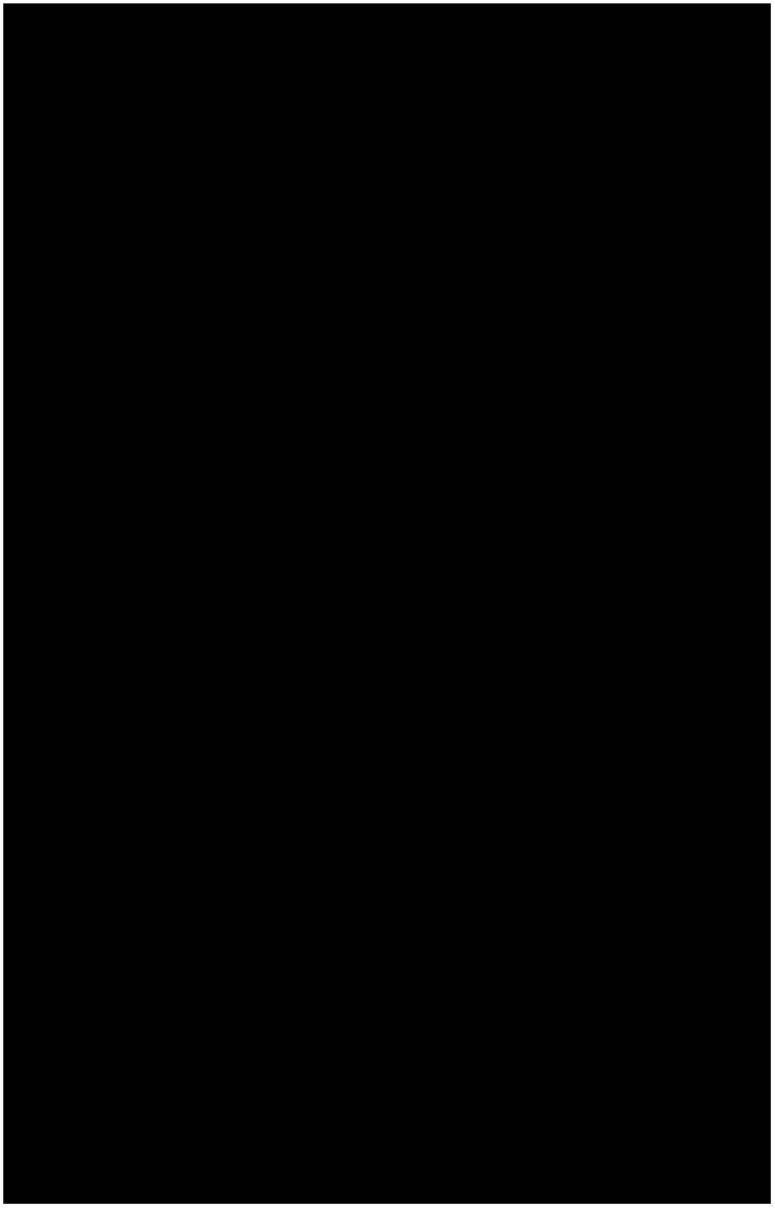
```
10 VAC
20 INPUT "M,D,Y",A
   ,B,C
30 INPUT "M,D,Y",D
   ,E,F
35 G=23:H=28:I=33:
   J=0:K=0:L=0:M=0
   :N=0:O=0:P=0:Q=
   0:R=0:S=0:T=0
36 Z=1
40 J=(A*30.4375)+(
   B-30.4375)
45 K=(D*30.4375)+(
   E-30.4375)
50 N=F-C
60 P=(F-C)*365.25
65 Q=K-J+P
66 GOSUB 70:IF U=2
    THEN 68
67 G=0:G=H:GOTO 66
68 G=0:G=I:GOTO 66
70 R=INT (Q/G)
75 S=INT (R*G)-Q
79 T=INT (S):U=U+1
80 IF U=1:V=T:GOTO
    100
81 IF U=2 THEN 90
82 IF U=3 THEN 110
90 W=T
100 T=0:RETURN
110 X=T:GOTO 121
120 T=0:RETURN
121 V=ABS (V):W=ABS
     (W):X=ABS (X):
    GOTO 188
122 MODE 7:PRINT Z;
    " ";V;W;X:MODE
    8:Z=Z+1
124 IF V<23:V=V+1
125 IF V=24:V=1
126 IF W<28:W=W+1
127 IF W=29:W=1
128 IF X<33:X=X+1
129 IF X=34:X=1
130 IF Z=366 THEN 2
    00
131 GOTO 122
188 MODE 7:PRINT 8;
    B;C;" ";D;E;F:M
    ODE 8:GOTO 122
200 PRINT "HIGH DAY
    S 6+9,MEDIUM GO
    ING DOWN 12+16"
    ;
210 PRINT ",LOW 18+
    24,MEDIUM GOING
     UP 23+33"
215 GOTO 10
```



Draw Straws Game

Enter # of straws, EXE. EXE until short straw displays, EXE to start again.

```
10 VAC
15 PRINT "DRAW STR
   AWS";
20 INPUT ":# OF ST
   RAWS",A
25 B=INT (A*RAN#+1
   )
30 D=A
40 IF D=B:PRINT "S
   HORT":GOTO 20
45 IF D*B:PRINT "L
   ONG"
46 D=D-1:GOTO 40
```

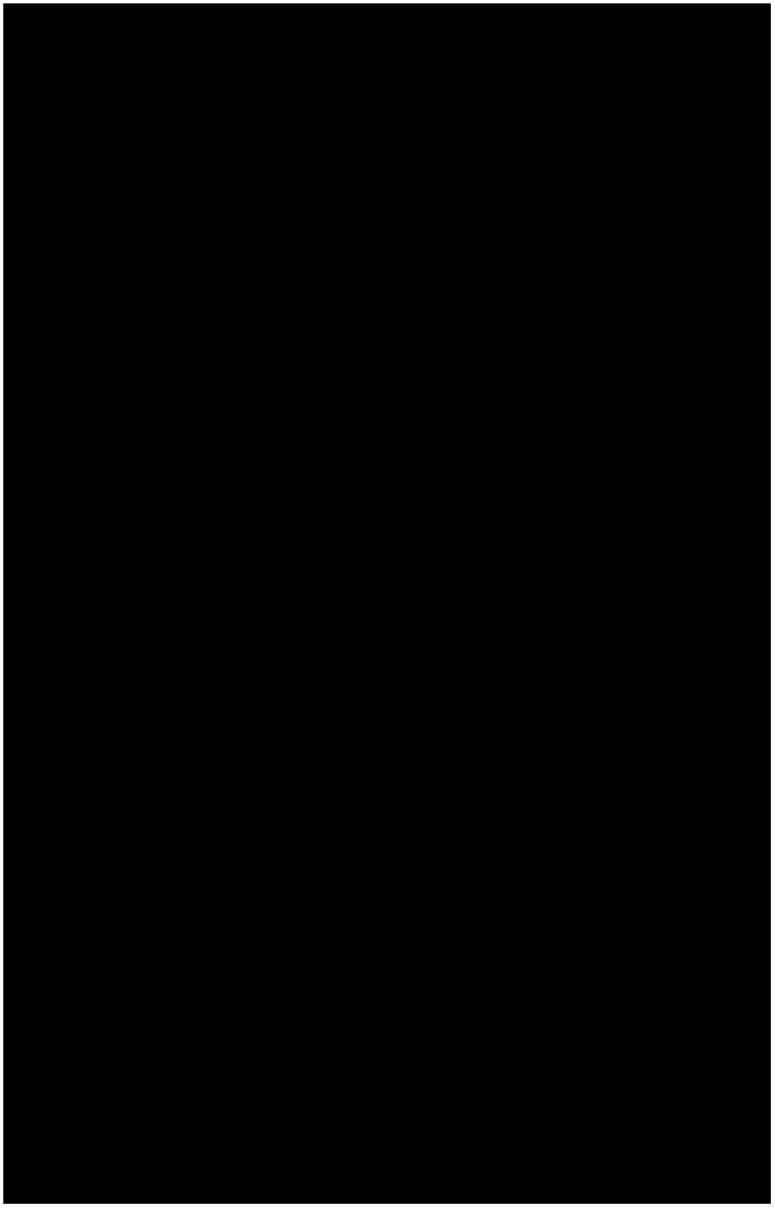


Code Breaker Game

Player enters code and computer tries to break it.

Expand DEFM 6. Enter any two letters, EXE lowest amount of runs wins.

```
 1 A(30)=1
 5 A$(1)="A":A$(2)
   ="B":A$(3)="C":
   A$(4)="D":A$(5)
   ="E"
10 A$(6)="F":A$(7)
   ="G":A$(8)="H":
   A$(9)="I"
15 A$(10)="J":A$(1
   1)="K":A$(12)="
   L":A$(13)="M"
20 A$(14)="N":A$(1
   5)="O":A$(16)="
   P":A$(17)="Q"
25 A$(18)="R":A$(1
   9)="S":A$(20)="
   T":A$(21)="U"
30 A$(22)="V":A$(2
   3)="W":A$(24)="
   X":A$(25)="Y":A
   $(26)="Z"
35 INPUT "2 LETTER
   S",A$(27)
41 B=INT (27*RND+
   .5):B=INT (27*R
   ND+.5)
43 A$(28)=A$(A)+A$
   (B)
47 IF A$(27)=A$(28
   ):PRINT "CODE "
   ;A$(28);A(30);"
    RUNS":GOTO 1
48 A(30)=A(30)+1
49 A$(28)=" "
50 GOTO 41
```



12 Letter Max. Word Scrambler Un-Scrambler Game

Expand DEFM 17. Enter word as spelled. Enter first letter, EXE. If word is spelled out enter 1 EXE, if not enter 2 EXE. When the word is spelled out and the scrambled word is displaying,EXE,for the original un-scrambled word, EXE to begin again. Seven minutes are allowed to guess.

```
10 VAC
13 A(40)=15:A(42)=
   0:A=39
14 G=300
15 INPUT "LETTER,E
   XE",A$(27):GOTO
    76
20 INPUT "LETTER,E
   XE",A$(28):GOTO
    76
25 INPUT "LETTER,E
   XE",A$(29):GOTO
    76
30 INPUT "LETTER,E
   XE",A$(30):GOTO
    76
35 INPUT "LETTER,E
   XE",A$(31):GOTO
    76
40 INPUT "LETTER,E
   XE",A$(32):GOTO
    76
45 INPUT "LETTER,E
   XE",A$(33):GOTO
    76
50 INPUT "LETTER,E
   XE",A$(34):GOTO
    76
55 INPUT "LETTER,E
   XE",A$(35):GOTO
    76
60 INPUT "LETTER,E
   XE",A$(36):GOTO
    76
65 INPUT "LETTER,E
   XE",A$(37):GOTO
    76
70 INPUT "LETTER,E
   XE",A$(38):GOTO
    76
76 IF A(40)=70 THE
   N 100
80 A(40)=A(40)+5:A
   (42)=A(42)+1
85 INPUT "END1NO2"
   ,A(41)
90 IF A(41)=1 THEN
    100
95 IF A(41)=2:A(41
   )=2:GOTO A(40)
100 GOSUB 300:I=A:A
   $(I)=A$(34):A=3
   9
115 GOSUB 300:K=A:A
   $(K)=A$(36):A=3
   9
120 GOSUB 300:L=A:A
   $(L)=A$(37):A=3
   9
125 GOSUB 300:M=A:A
   $(M)=A$(38):A=3
   9
130 GOSUB 300:J=A:A
   $(J)=A$(35):A=3
   9
135 GOSUB 300:F=A:A
   $(F)=A$(31):A=3
   9
140 GOSUB 300:D=A:A
   $(D)=A$(29):A=3
   9
145 GOSUB 300:H=A:A
   $(H)=A$(33):A=3
   9
150 GOSUB 300:B=A:A
   $(B)=A$(27):A=3
   9
155 GOSUB 300:G=A:A
   $(G)=A$(32):A=3
   9
160 GOSUB 300:E=A:A
   $(E)=A$(30):A=3
   9
165 GOSUB 300:C=A:A
   $(C)=A$(28)
170 PRINT CSR 0;A$(
   I);
171 PRINT CSR 1;A$(
   K);
172 PRINT CSR 2;A$(
   L);
173 PRINT CSR 3;A$(
   M);
```

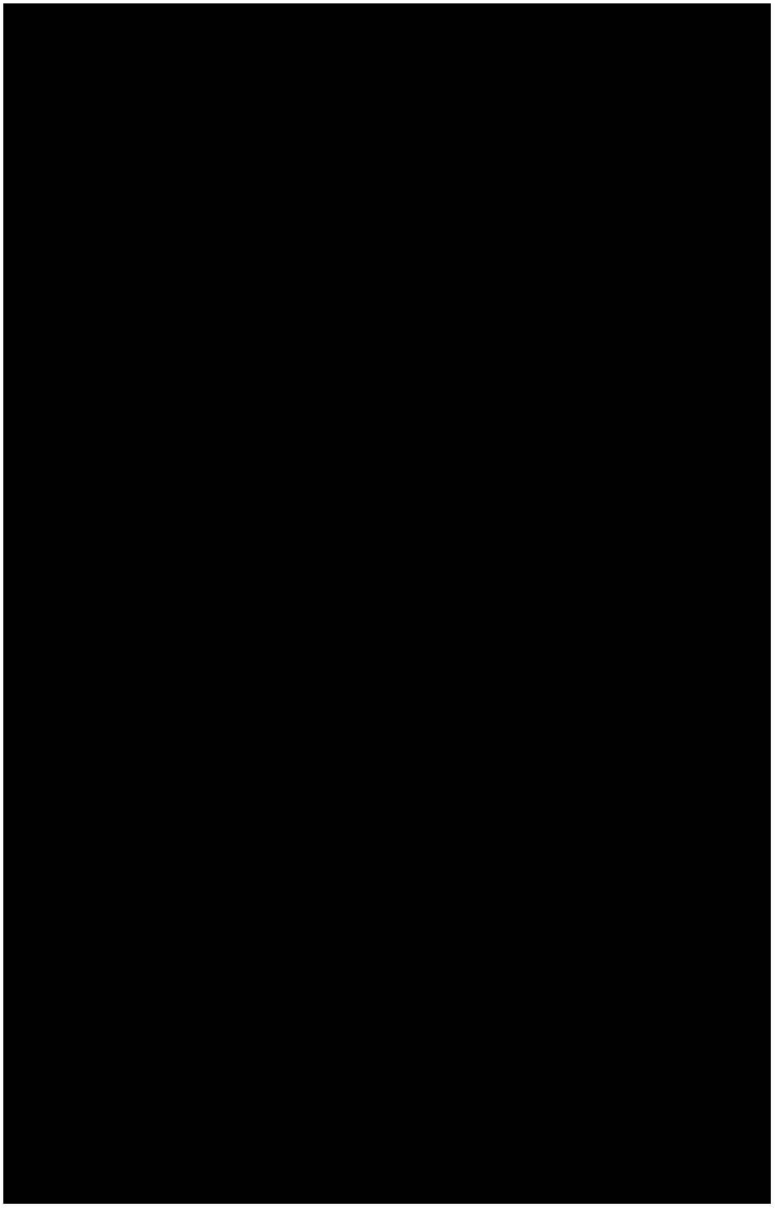
```
174 PRINT CSR 4;A$(
    3);
175 PRINT CSR 5;A$(
    F);
176 PRINT CSR 6;A$(
    D);
177 PRINT CSR 7;A$(
    H);
178 PRINT CSR 8;A$(
    B);
179 PRINT CSR 9;A$(
    G);
180 PRINT CSR 10;A$
    (E);
181 PRINT CSR 11;A$
    (C);
182 STOP
184 PRINT CSR 0;A$(
    27);
185 PRINT CSR 1;A$(
    28);
186 PRINT CSR 2;A$(
    29);
187 PRINT CSR 3;A$(
    30);
188 PRINT CSR 4;A$(
    31);
189 PRINT CSR 5;A$(
    32);
190 PRINT CSR 6;A$(
    33);
191 PRINT CSR 7;A$(
    34);
192 PRINT CSR 8;A$(
    35);
193 PRINT CSR 9;A$(
    36);
194 PRINT CSR 10;A$
    (37);
195 PRINT CSR 11;A$
    (38);
196 STOP :GOTO 10
300 O=O+1:GOTO O
301 A=A-5:GOTO 320
302 A=A-3:GOTO 320
303 A=A-2:GOTO 320
304 A=A-1:GOTO 320
305 A=A-4:GOTO 320
306 A=A-8:GOTO 320
307 A=A-10:GOTO 320
308 A=39:A=A-6:GOTO
    320
309 A=A-12:GOTO 320
310 A=A-7:GOTO 320
311 A=A-9:GOTO 320
312 A=A-11:GOTO 320
320 RETURN
```

Day of Date

What day did the date entered fall on.

Expand DEFM 4. Input date, EXE. When date re-appears EXE for day of date, EXE to start again.

```
10 VAC
11 M=31:N=31:O=30:
   P=31:Q=30:R=31:
   S=31:T=30:U=31:
   V=30
13 A$="MON.":B$="T
   UE.":C$="WED.":
   D$="THUR.":E$="
   FRI.":F$="SAT."
14 G$="SUN."
15 INPUT "M,D,Y",M
   ,I,J:A(29)=I
16 K=J:A(28)=K
18 A(27)=A(28):GOT
   O 20
20 K=J:K=K-4
21 K=K-4
22 Y=Y+1
23 IF J<1:L=28:A(2
   7)=0:GOTO 40
25 IF K=0:L=29:GOT
   O 40
30 IF K<0:L=28:Y=Y
   -1:GOTO 40
35 GOTO 21
40 IF M=1:X=I:GOTO
    96
45 IF M=2:X=M+I:GO
   TO 96
50 IF M=3:X=M+L+I:
   GOTO 96
55 IF M=4:X=N+L+M+
   I:GOTO 96
60 IF M=5:X=O+N+L+
   M+1:GOTO 96
65 IF M=6:X=P+O+N+
   L+M+I:GOTO 96
70 IF M=7:X=Q+P+O+
   N+L+M+I:GOTO 96
75 IF M=8:X=R+Q+P+
   O+N+L+M+I:GOTO
   96
80 IF M=9:X=S+R+Q+
   P+O+N+L+M+I:GOT
   O 96
85 IF M=10:X=T+S+R
   +Q+P+O+N+L+M+I:
   GOTO 96
90 IF M=11:X=U+T+S
   +R+Q+P+O+N+L+M+
   I:GOTO 96
95 IF M=12:X=V+U+T
   +S+R+Q+P+O+N+L+
   M+I:GOTO 96
96 IF X>0 THEN 100
97 I=INT ((J*365.2
   5)+X-1):X=I+X-1
100 W=X-I:W=W+Y+A(2
   7)
105 IF W<7:Z=W:GOTO
    119
110 W=W-7
112 W=ABS (W)
115 IF W<7:Z=W:GOTO
    110
116 GOTO 110
```



Moon Phases

Shows moon appearance on any given date.

Enter date EXE. When date appears EXE to see phase. EXE to begin again.

```
 1 PRINT "MOON PHA
   SES"
10 VAC
11 M=31:N=31:O=30:
   P=31:Q=30:R=31:
   S=31:T=30:U=31:
   V=30:Z$="■"
15 INPUT "M,D,Y",H
   ,I,J:B=J+16.884
   :A=J
20 C=29.5305:G=.25
   :E=4
21 A=A-4
23 IF J≤1:L=28:GOT
   O 40
25 IF A=0:L=29:GOT
   O 40
30 IF A<0:L=28:A=E
   +A:Y=A*G:GOTO 4
   0
35 GOTO 21
40 IF H=1:X=I:GOTO
    96
45 IF H=2:X=M+I:GO
   TO 96
50 IF H=3:X=M+L+I:
   GOTO 96
55 IF H=4:X=M+L+M+
   I:GOTO 96
60 IF H=5:X=O+M+L+
   M+I:GOTO 96
65 IF H=6:X=P+O+M+
   L+M+I:GOTO 96
70 IF H=7:X=Q+P+O+
   N+L+M+I:GOTO 96
75 IF H=8:X=R+Q+P+
   O+N+L+M+I:GOTO
   96
80 IF H=9:X=S+R+Q+
   P+O+N+L+M+I:GOT
   O 96
85 IF H=10:X=T+S+R
   +Q+P+O+N+L+M+I:
   GOTO 96
90 IF H=11:X=U+T+S
   +R+Q+P+O+N+L+M+
   I:GOTO 96
95 IF H=12:X=V+U+T
   +S+R+Q+P+O+N+L+
   M+I:GOTO 96
 96 W=X+B+Y+19
105 IF W≤C:W=W:GOTO
    117
110 W=W-C
115 IF W≤C:W=W:GOTO
    117
116 GOTO 110
117 W=RND(W,-1)
118 PRINT M;I;J
119 IF W≥17:PRINT '
   TO NEW MOON"
120 IF W≤16:PRINT '
   TO FULL MOON"
121 IF W≤2:PRINT Z$
   ;Z$;Z$;Z$;Z$;Z$
   ;Z$;Z$;Z$;Z$;Z$
   ;"←":GOTO 10
122 IF W=3:PRINT Z$
   ;Z$;Z$;Z$;Z$;Z$
   ;Z$;Z$;Z$;Z$;'
   ←":GOTO 10
123 IF W=4:PRINT Z$
   ;Z$;Z$;Z$;Z$;Z$
   ;Z$;Z$;Z$;'  ←'
   :GOTO 10
124 IF W=5:PRINT Z$
   ;Z$;Z$;Z$;Z$;Z$
   ;Z$;Z$;'   ←":G
   OTO 10
125 IF W=6:PRINT Z$
   ;Z$;Z$;Z$;Z$;Z$
   ;Z$;'    ←':GOT
   O 10
126 IF W≥8:PRINT Z$
   ;Z$;Z$;Z$;Z$;Z$
   ;"     ←":GOTO
   10
127 IF W≥10:PRINT Z
   $;Z$;Z$;Z$;Z$;'
        ←":GOTO 1
   0
128 IF W=11:PRINT Z
   $;Z$;Z$;Z$;"
      ←":GOTO 10
129 IF W=12:PRINT Z
   $;Z$;Z$;"
     ←":GOTO 10
130 IF W=13:PRINT Z
   $;Z$;"
   ←":GOTO 10
```

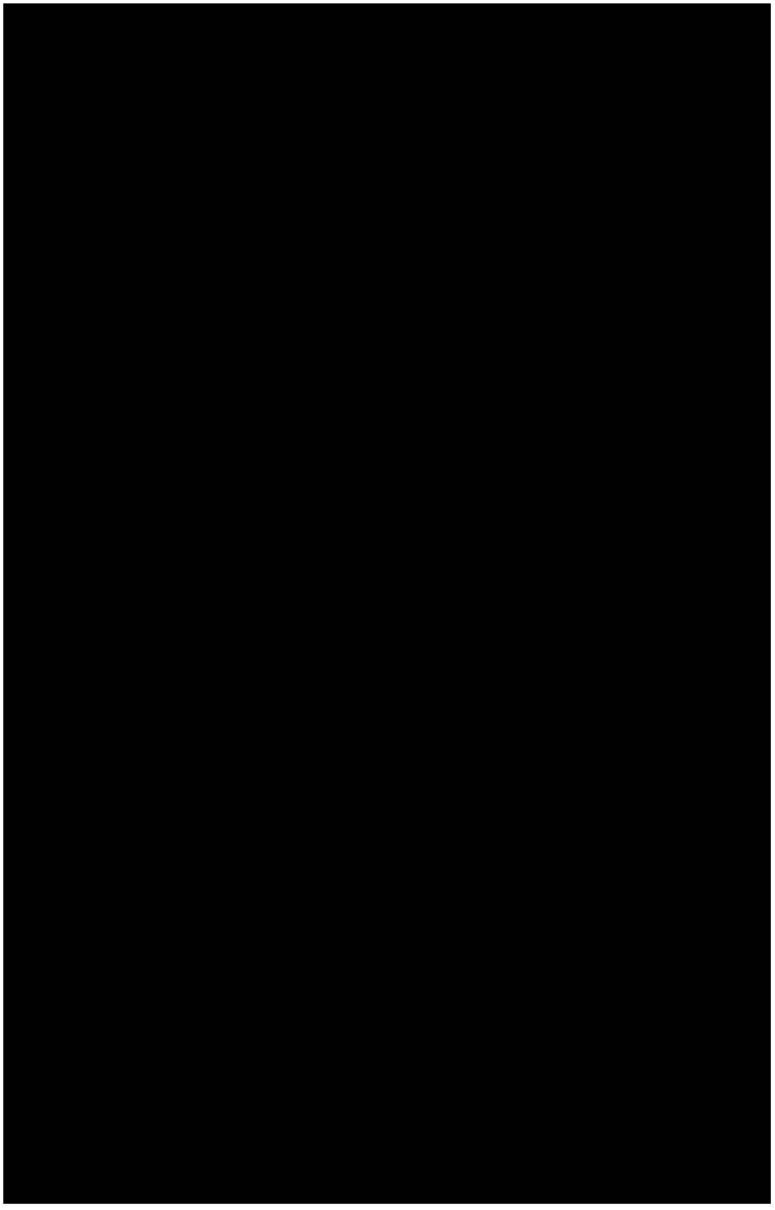
```
131 IF W=14:PRINT Z
    $;"          +"
    :GOTO 10
133 IF W=17:PRINT C
    SR 10;"+":Z$:GO
    TO 10
134 IF W=18:PRINT C
    SR 9;"+":Z$;Z$;
    GOTO 10
135 IF W=19:PRINT C
    SR 8;"+";Z$;Z$;
    Z$:GOTO 10
136 IF W=20:PRINT C
    SR 7;"+";Z$;Z$;
    Z$;Z$:GOTO 10
137 IF W=21:PRINT C
    SR 6;"+";Z$;Z$;
    Z$;Z$;Z$:GOTO 1
    0
138 IF W=22:PRINT "
        +";Z$;Z$;Z
    $;Z$;Z$;Z$:GOTO
     10
139 IF W=23:PRINT "
        +";Z$;Z$;Z$
    ;Z$;Z$;Z$;Z$:GO
    TO 10
140 IF W=24:PRINT "
       +";Z$;Z$;Z$;
    Z$;Z$;Z$;Z$;Z$;
    GOTO 10
141 IF W=25:PRINT "
      +";Z$;Z$;Z$;Z
    $;Z$;Z$;Z$;Z$;Z
    $:GOTO 10
142 IF W=26:PRINT "
     +";Z$;Z$;Z$;Z$
    ;Z$;Z$;Z$;Z$;Z$
    ;Z$:GOTO 10
143 IF W=27:PRINT "
    +";Z$;Z$;Z$;Z$;
    Z$;Z$;Z$;Z$;Z$;
    Z$;Z$:GOTO 10
144 IF W=28:PRINT Z
    $;Z$;Z$;Z$;Z$;Z
    $;Z$;Z$;Z$;Z$;Z
    $;Z$:GOTO 10
145 STOP :GOTO 10
```

Moving Targets II Game

Simulates shooting gallery.

Enter section of display gun is aimed at, EXE. Press # of the section when target is there. To continue always press EXE.

```
 1 VAC
 2 PRINT "MOVING T
   ARGETS"
10 A$="■":B$="¥":C
   $="□":D$="▲":E$
   ="●":F$="·"
15 M$=KEY
20 GOTO 300
30 M$=KEY:IF M$="Z
   ";PRINT CSR L;A
   $:A$=F$
31 PRINT CSR L;A$:
   GOTO 357
32 M$=KEY:IF M$="Z
   ";PRINT CSR L;B
   $:B$=F$
33 PRINT CSR L;B$:
   GOTO 355
34 M$=KEY:IF M$="Z
   ";PRINT CSR L;C
   $:C$=F$
35 PRINT CSR L;C$:
   GOTO 353
36 M$=KEY:IF M$="Z
   ";PRINT CSR L;D
   $:D$=F$
37 PRINT CSR L;D$:
   GOTO 351
38 M$=KEY:IF M$="Z
   ";PRINT CSR L;E
   $:E$=F$
39 PRINT CSR L;E$:
   GOTO 349
297 IF T+R+Q+U+V=5;
    PRINT "TOTAL SH
    OTS=";S:GOTO 1
298 S=S+1
300 G=INT (40*RAN#)
310 L=INT (12*RAN#)
320 IF G<30 THEN 30
    0
325 IF G>39 THEN 30
    0
330 GOTO G
349 IF T=1 THEN 297
350 IF E$="·";T=1:G
    OTO 297
351 IF R=1 THEN 297
352 IF D$="·";R=1:G
    OTO 297
353 IF Q=1 THEN 297
354 IF C$="·";Q=1:G
    OTO 297
355 IF U=1 THEN 297
356 IF B$="·";U=1:G
    OTO 297
357 IF V=1 THEN 297
358 IF A$="·";V=1:G
    OTO 297
360 GOTO 300
```

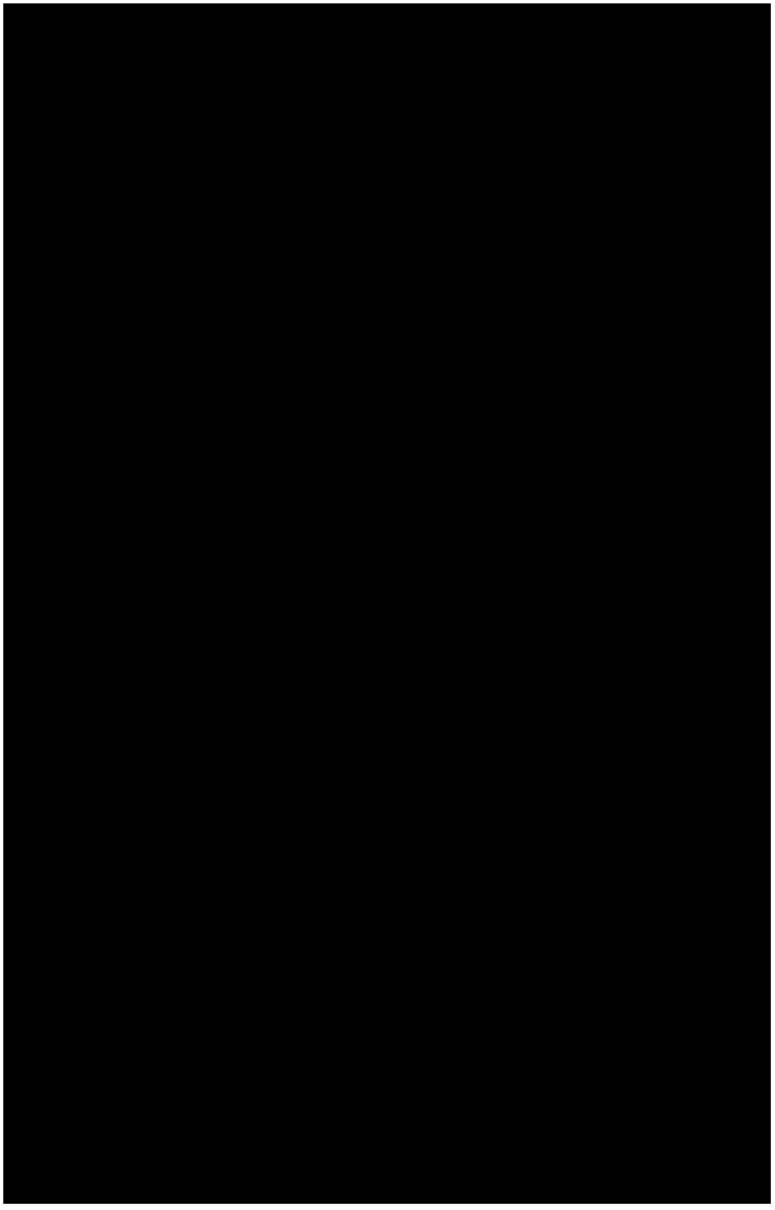


Vote

Vote tally out of three entries.

Enter vote decision 1, 2 or 3 EXE. If all voters have voted enter 1 EXE to end tally. If not enter 2 EXE to enter another vote.

```
10 VAC
11 A=0:B=0:C=0
12 PRINT "VOTES";
15 INPUT "YES1 NO2
    ?3",I
16 IF I=1;A=A+I:GO
   TO 20
17 IF I=2;B=B+I-1:
   GOTO 20
18 IF I=3;C=C+I-2:
   GOTO 20
19 GOTO 15
20 D=D+1
25 INPUT "END 1,NO
    2",E
30 IF E=1 THEN 38
35 IF E=2 THEN 15
36 GOTO 25
38 J=B+C:K=A+C:L=A
   +B
39 PRINT "OF";D;"
   VOTES:";
40 IF A>J:PRINT "Y
   ES";A;" OF";D
45 IF B>K;PRINT "N
   O";B;" OF";D
50 IF C>L;PRINT "?
   ";C;" OF";D
60 GOTO 10
```

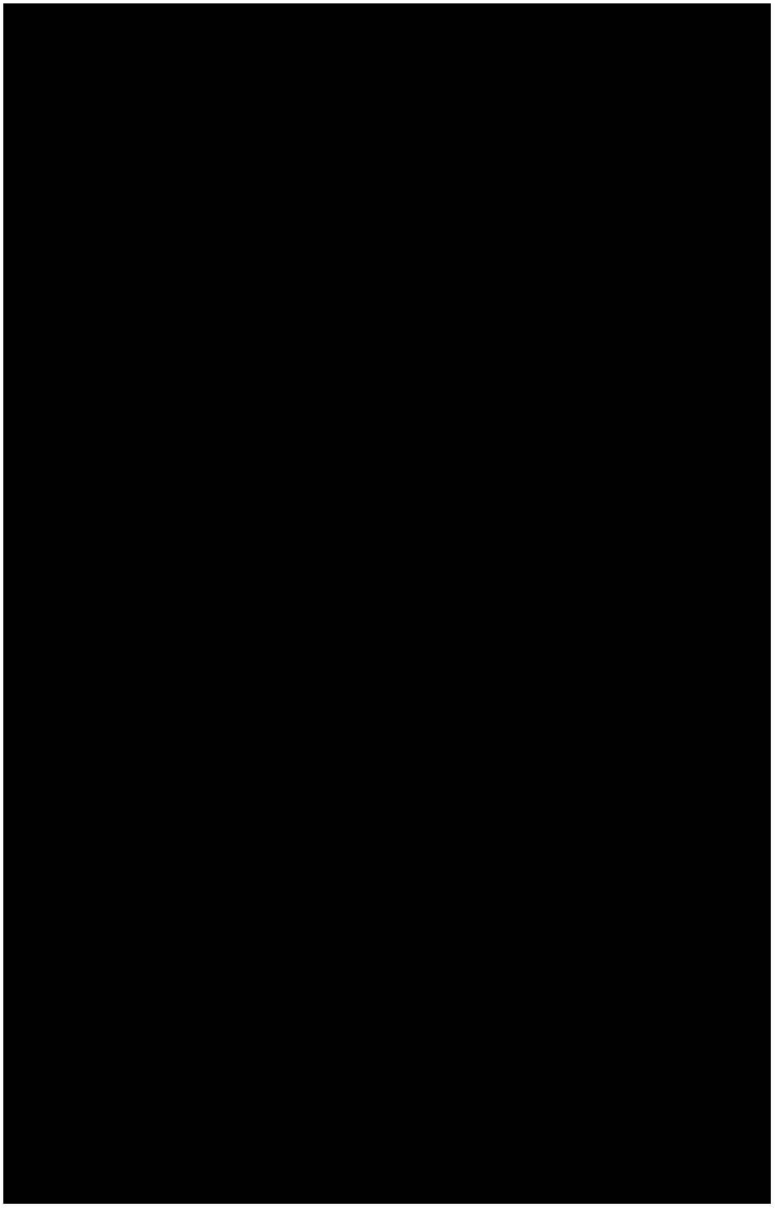


Self Helper

Create question that you are seeking answer for, answer each word in program on scale of 1-10 for final answer to the question.

Enter a # 1-10 EXE that fits your answer to the words of the question being studied. If the final answer isn't right change your numbers assigned to the words and think why a change was needed.

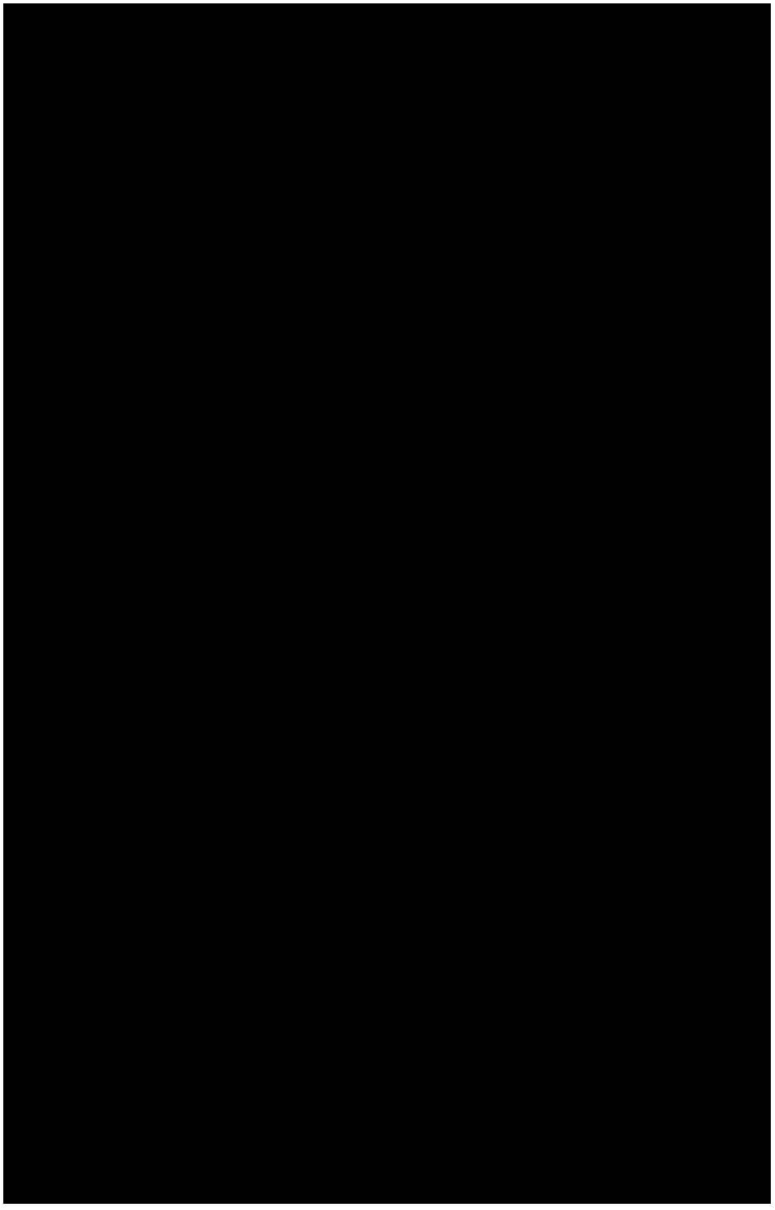
```
 1 VAC
10 INPUT "NEED 1→1
   0",A
20 INPUT "FEELING
   1→10",B
30 INPUT "UNKNOWNS
    1→10",C
40 INPUT "FACTS 1→
   10",D
50 INPUT "EFFORT 1
   →10",E
60 INPUT "HELP 1→1
   0",F
70 INPUT "READYNES
   S 1→10";G
75 GOTO 100
80 H=A+B-C+D-E+F+G
   +I
81 Z=H
85 H=H/7:H=INT (H)
   :H=ABS (H)
86 IF H≥5;H=H-4
90 IF H≤0;PRINT "P
   OOR":GOTO 1
91 IF H=1;PRINT "F
   AIR":GOTO 1
92 IF H=2;PRINT "F
   INE":GOTO 1
93 IF H=3;PRINT "G
   OOD":GOTO 1
94 IF H=4;PRINT "P
   OOR":GOTO 1
100 IF A≤4;A=-A
105 IF A≥8;A=5
110 IF B≤4;B=-B
120 IF C≤2;I=5
125 IF I=5;C=0
130 IF D≤4;D=-D
140 IF F≤4;F=-F
150 IF G≥6;G=-G
160 GOTO 80
```



Tape Measure Adder

Enter 1 to read final totals and clear or 2 to continue adding. EXE. Inputting fractions can be no smaller than 1/16. Enter fractions always like 1/2 3/4 1/16 3/8

```
  1 PRINT "TAPE MEA
    SURE ADDER:";
  5 VAC
 10 INPUT "END 1,NO
    ,2",Z
 11 IF Z=2 THEN 13
 12 IF Z=1 THEN 230
 13 INPUT "FT.",W:W
    =W*12:B=B+1
 14 INPUT "IN.",U
 15 INPUT "FRAC.",V
 16 R=W+U+V
 20 IF B=1:C=A:A=0:
    GOTO 210
210 R=C+D
220 S=INT (R):X=R-S
    :T=INT (S/12):S
    =INT (R/12)
225 A=INT (R/12):A=
    A*12:Y=R-A:S=IN
    T (Y)
227 IF B=1:B=0:D=R:
    R=0
230 IF X=.5:PRINT T
    ;"FT";S;" ";"1/
    2";"IN":GOTO 40
    0
240 IF X=.25:PRINT
    T;"FT";S;" ";"1
    /4";"IN":GOTO 40
    0
250 IF X=.125:PRINT
     T;"FT";S;" ";"
    1/8";"IN":GOTO
    400
260 IF X=.0625:PRIN
    T T;"FT";S;" ";
    "1/16";"IN":GOT
    O 400
270 IF X=.75:PRINT
    T;"FT";S;" ";"3
    /4";"IN":GOTO 4
    00
280 IF X=.375:PRINT
     T;"FT";S;" ";"
    5/8";"IN":GOTO
    400
290 IF X=.625:PRINT
     T;"FT";S;" ";"
    5/8";"IN":GOTO
    400
300 IF X=.875:PRINT
     T;"FT";S;" ";"
    7/8";"IN":GOTO
    400
310 IF X=.1875:PRIN
    T T;"FT";S;" ";
    "3/16";"IN":GOT
    O 400
320 IF X=.3125:PRIN
    T T;"FT";S;" ";
    "5/16";"IN":GOT
    O 400
330 IF X=.4375:PRIN
    T T;"FT";S;" ";
    "7/16";"IH":GOT
    O 400
340 IF X=.5625:PRIN
    T T;"FT";S;" ";
    "9/16";"IN":GOT
    O 400
350 IF X=.6875:PRIN
    T T;"FT";S;" ";
    "11/16";"IN":GO
    TO 400
360 IF X=.8125:PRIN
    T T;"FT";S;" ";
    13/16";"IN":GOT
    O 400
370 IF X=.9375:PRIN
    T T;"FT";S;" ";
    "15/16";"IN":GO
    TO 400
380 IF X=0:PRINT T;
    "FT";Y;"IN"
400 IF Z=1 THEN 5
410 A=0:W=0:U=0:V=0
    :GOTO 10
```

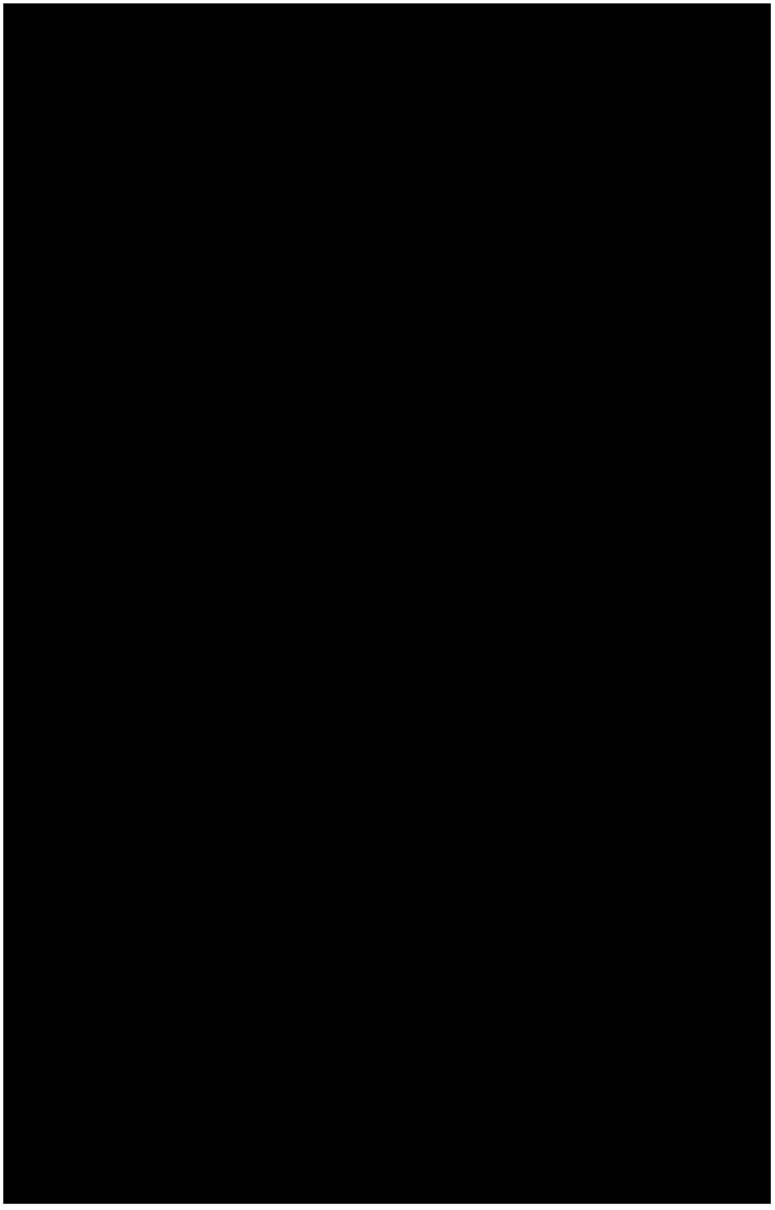


Memory Fingers Game

Memory game to test your memory retention.

EXE and press letter A simultaneously to stop display and read the #. Continue on through seven stops and enter the #'s in the order you saw them. Your score will depend on your ability to stop the display and memorize the display. If you fail to stop the display you can always guess.

```
  1 PRINT "MEMORY F
    INGERS"
  3 VAC
  5 A$="▲":U=0
 30 GOSUB 99
 31 IF U*8 THEN 30
 32 IF U=8 THEN 120
 35 INPUT "AREAS",B
    ,C,D,E,K,L,M
 36 IF B=G:Y=1:IF C
    =H:X=1:IF D=J:W
    =1:IF E=J:V=1
 37 IF K=T:S=1:IF L
    =P:R=1:IF M=Q:Q
    =1
 38 U=0:U=Y+X+W+V+S
    +R+Q
 39 PRINT "SCORE=";
    U:GOTO 3
 99 N=INT (9*RAN#)
100 PRINT CSR N;A$;
101 U=U+1
102 IF U=1:G=N
103 IF U=2:H=N
104 IF U=3:J=N
105 IF U=4:J=N
106 IF U=5:T=N
107 IF U=6:P=N
108 IF U=7:Q=N
109 FOR F=0 TO 100:
    Z$=KEY$:IF Z$="A
    ":PRINT N:NEXT
    F
110 IF U=7:U=8
111 RETURN
120 U=0:FOR U=0 TO
    500:NEXT U
130 GOTO 35
```

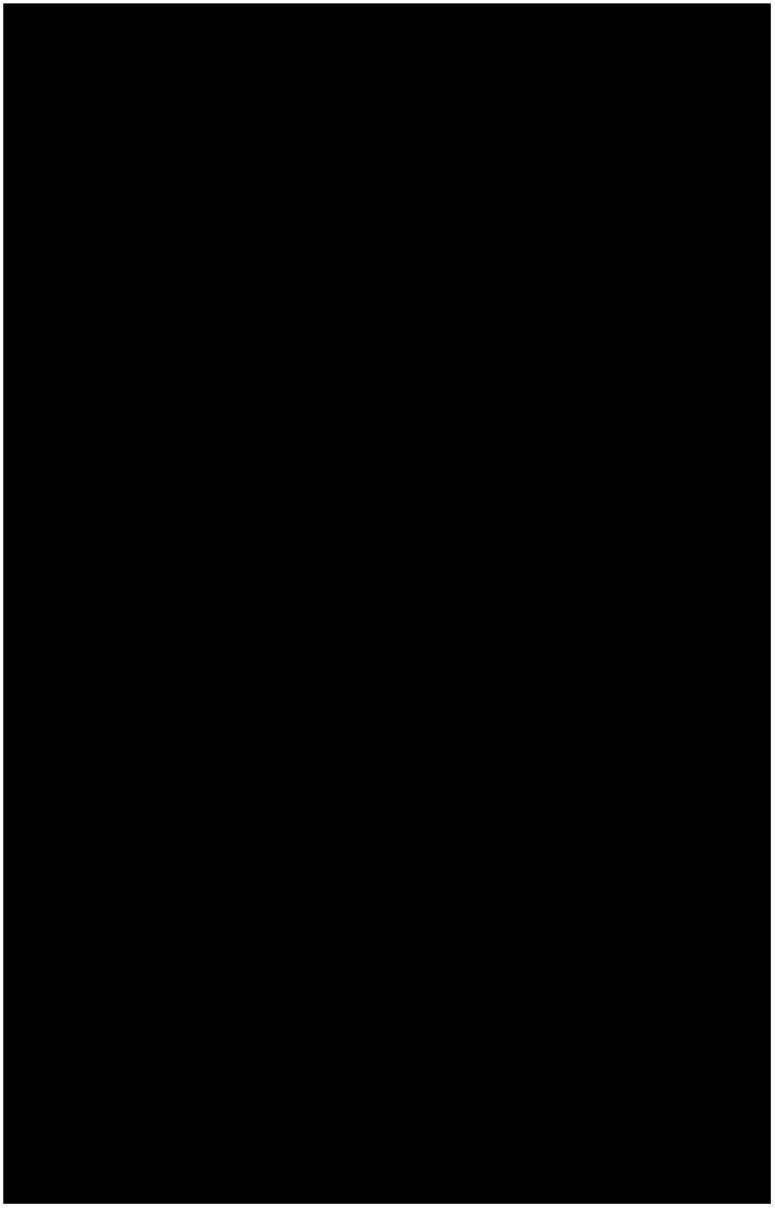


Win the Message Game

Guessing game, computer generates number, to receive message you must guess correct number. Guesses may be either negative or positive number.

Enter the secret message of 30 spaces max, EXE, ENTER # EXE, # EXE, type yes or no EXE, if yes EXE, EXE, EXE.

```
 10 W=0:X=0:$=" "
 15 INPUT "THE MESS
    AGE",$
 20 GOTO 140
 30 PRINT " BEGIN";
    W;" ";
 40 X=X+1
 50 IF W=X THEN 90
 60 IF W>X THEN 140
 70 IF W<2 THEN 140
 80 E=0:O=0
 90 INPUT " NEW GUE
    SS",E
 92 IF E>0:PRINT "T
    OO POSITIVE ";
 94 IF E<0:PRINT "T
    OO HIGH ";
100 PRINT "GIVE UP!
    ";
110 INPUT " YES,NO"
    ,N$
120 IF N$="YES" THE
    N 230
130 GOTO 250
140 O=0
150 INPUT "NEW WHAT
    ",O
155 IF O<0:PRINT "T
    OO HIGH ";
157 IF O>0:PRINT "T
    OO POSITIVE ";
160 W=W+1
200 N=0
210 GOTO 30
230 PRINT "GET STAR
    T":GOTO 295
240 GOTO 30
245 A=-A:E=-A:O=-A
250 PRINT "THE END"
    ;E;O;
264 IF -E=-A:PRINT
    $:GOTO 20
266 IF -O=-A:PRINT
    $:GOTO 20
270 A=INT (10*RND+
    1)
280 A=-A:E=-A
285 PRINT A;" ";
290 GOTO 20
295 PRINT "FIND THE
     MESSAGE":GOTO
    20
```



Moving Targets Game II

Shooting gallery game.

Press EXE, 2. If you display a Z, press AC and continue. After display of shots used, EXE, EXE, Z

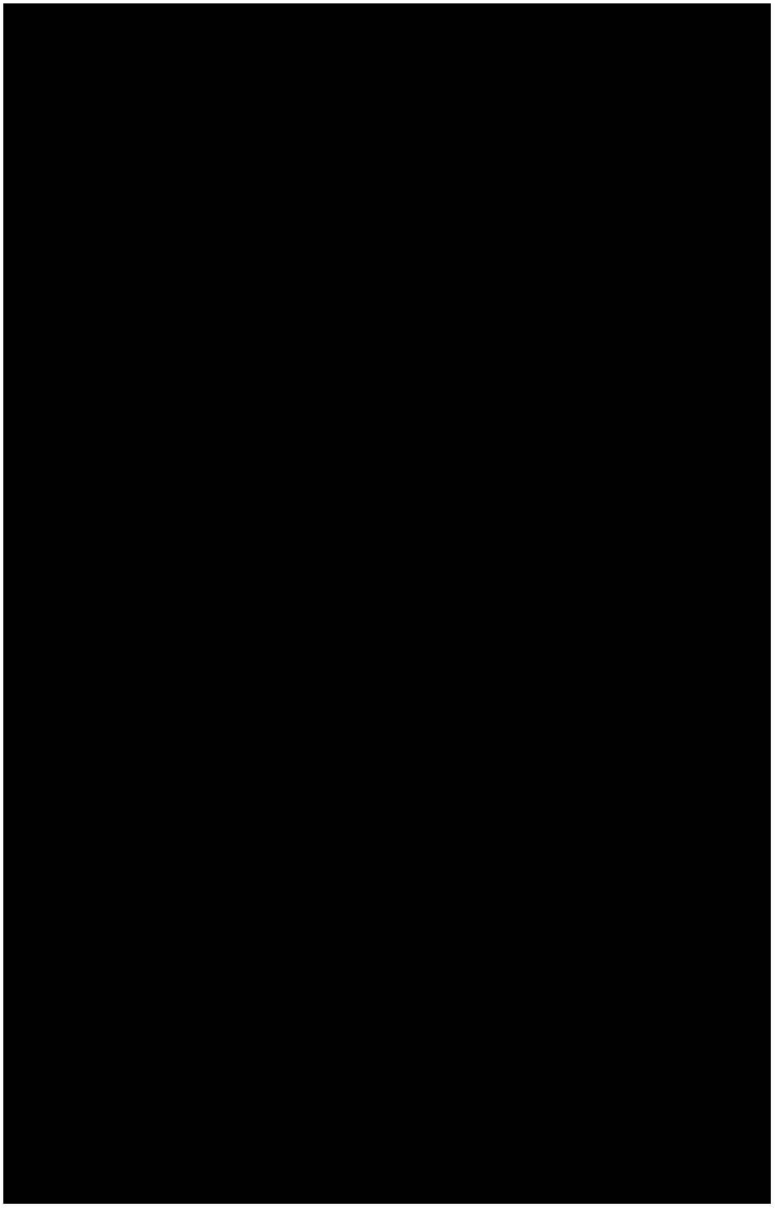
```
 1 VAC
 2 GOTO 15
 3 PRINT "GREAT SH
   OT!!":X=X+1:GOT
   O 400
10 PRINT "MISSED:"
   ;
15 M$="■":N$="¥":O
   $="↑":A$="_"
17 INPUT "GUN AIM,
   2+9",T
18 W=W+1
20 Q=INT (11*RAN#)
   :R=INT (11*RAN#
   )
25 S=ABS (Q-R)
30 IF S>Q THEN 100
35 IF S<R THEN 200
40 GOTO 300
100 PRINT CSR 1;M$;
101 V$=KEY:IF V$>"1
    ":U=1:GOTO 160
110 PRINT CSR 2;M$;
111 V$=KEY:IF V$>"1
    ";U=2:GOTO 160
115 PRINT CSR 3;M$;
116 V$=KEY:IF V$>"1
    ":U=3:GOTO 160
120 PRINT CSR 4;M$;
121 V$=KEY:IF V$>"1
    ";U=4:GOTO 160
125 PRINT CSR 5;M$;
126 V$=KEY:IF V$>"1
    ";U=5:GOTO 160
130 PRINT CSR 6;M$;
131 V$=KEY:IF V$>"1
    ";U=6:GOTO 160
135 PRINT CSR 7;M$;
136 V$=KEY:IF V$>"1
    ";U=7:GOTO 160
140 PRINT CSR 8;M$;
141 V$=KEY:IF V$>"1
    ";U=8:GOTO 160
145 PRINT CSR 9;M$;
146 V$=KEY:IF V$>"1
    ";U=9:GOTO 160
160 PRINT CSR 0;"
                ";
165 IF V$<"1";V$="1
    ":GOTO 100
170 IF T=U;PRINT CS
    R U;M$;
171 FOR B=1 TO 40:N
    EXT B
172 IF T=U;PRINT CS
    R U;A$:Y=17:GOT
    O 3
175 Y=10:GOTO 400
200 PRINT CSR 11;N$
    ;
201 V$=KEY:IF V$>"1
    ";U=11:GOTO 260
210 PRINT CSR 10;N$
    ;
211 V$=KEY:IF V$>"1
    ";U=10:GOTO 260
215 PRINT CSR 9;N$;
216 V$=KEY:IF V$>"1
    ";U=9:GOTO 260
220 PRINT CSR 8;N$;
221 V$=KEY:IF V$>"1
    ";U=8:GOTO 260
225 PRINT CSR 7;N$;
226 V$=KEY:IF V$>"1
    ";U=7:GOTO 260
230 PRINT CSR 6;N$;
231 V$=KEY:IF V$>"1
    ";U=6:GOTO 260
235 PRINT CSR 5;N$;
236 V$=KEY:IF V$>"1
    ";U=5:GOTO 260
240 PRINT CSR 4;N$;
241 V$=KEY:IF V$>"1
    ";U=4:GOTO 260
245 PRINT CSR 3;N$;
246 V$=KEY:IF V$>"1
    ";U=3:GOTO 260
250 PRINT CSR 2;N$;
251 V$=KEY:IF V$>"1
    ";U=2:GOTO 260
255 PRINT CSR 1;N$;
256 V$=KEY:IF V$>"1
    ";U=1:GOTO 260
260 PRINT CSR 0;"
                ";
265 IF V$<"1";V$="1
    ":GOTO 200
270 IF T=U;PRINT CS
    R U;N$;
```

```
271 FOR B=1 TO 40:N
    EXT B
272 IF T=U:PRINT CS
    R U;A$:Y=17:GOT
    O 3
275 Y=10:GOTO 400
300 PRINT CSR 11;O$
    ;
301 V$=KEY:IF V$)"1
    ":U=11:GOTO 360
310 PRINT CSR 1;O$;
311 V$=KEY:IF V$)"1
    ":U=1:GOTO 360
315 PRINT CSR 10;O$
    ;
316 V$=KEY:IF V$)"1
    ":U=10:GOTO 360
320 PRINT CSR 2;O$;
321 V$=KEY:IF V$)"1
    ":U=2:GOTO 360
325 PRINT CSR 9;O$;
326 V$=KEY:IF V$)"1
    ":U=9:GOTO 360
330 PRINT CSR 3;O$;
331 V$=KEY:IF V$)"1
    ":U=3:GOTO 360
335 PRINT CSR 8;O$;
336 V$=KEY:IF V$)"1
    ":U=8:GOTO 360
340 PRINT CSR 4;O$;
341 V$=KEY:IF V$)"1
    ":U=4:GOTO 360
345 PRINT CSR 7;O$;
346 V$=KEY:IF V$)"1
    ":U=7:GOTO 360
350 PRINT CSR 5;O$;
351 V$=KEY:IF V$)"1
    ":U=5:GOTO 360
355 PRINT CSR 6;O$;
356 V$=KEY:IF V$)"1
    ":U=6:GOTO 360
360 PRINT CSR 0;"
            ";
365 IF V$<"1":V$="1
    ":GOTO 300
370 IF T=U:PRINT CS
    R U;O$;
371 FOR B=1 TO 40:N
    EXT B
372 IF T=U:PRINT CS
    R U;A$:Y=17:GOT
    O 3
375 Y=10:GOTO 400
400 PRINT X;" OF";N
    :GOTO Y
```

Circular Illusion Picture

Mode, 0, Shift, 0, AC to stop

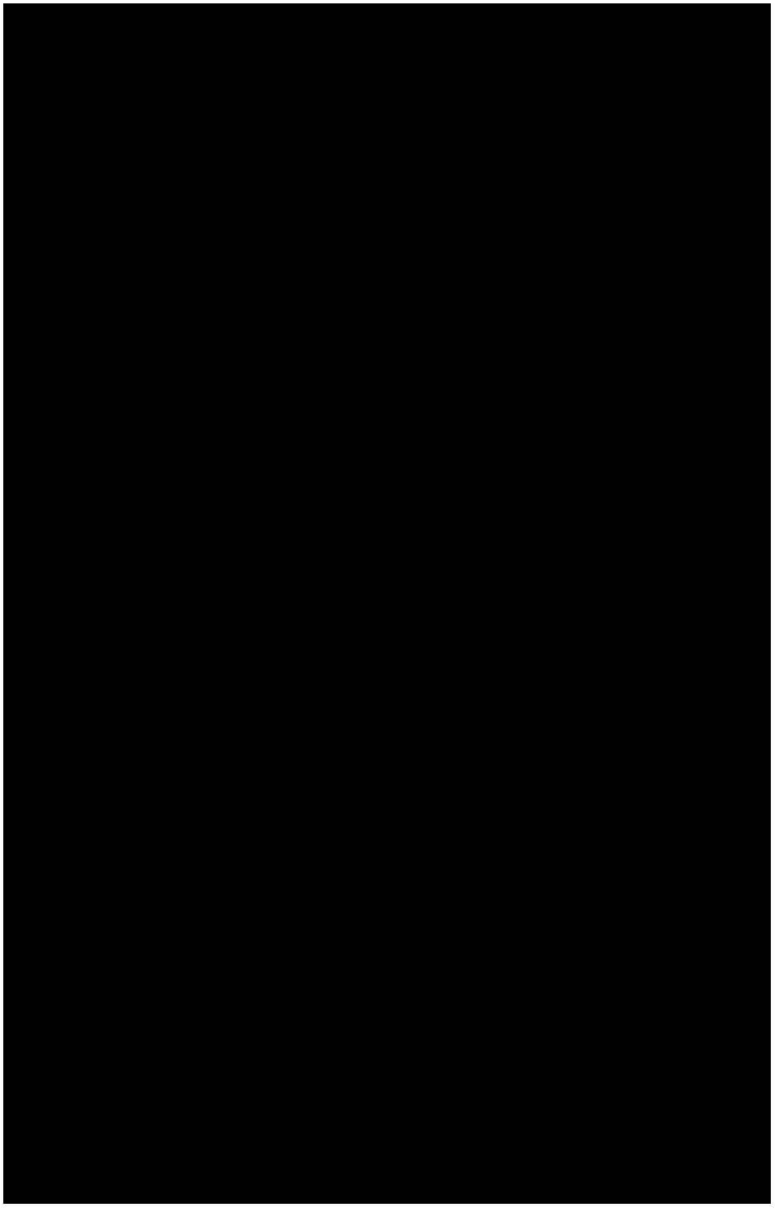
```
 2 VAC
10 A$="←":B$="↓":C
   $="→":D$="↑":E$
   ="・":F$="■":G$=
   "(":H$=")"
20 L=5
40 I=60
50 GOTO I
60 PRINT CSR L-5;G
   $;F$;F$;F$;F$;A
   $;A$;E$;E$;E$;E
   $;H$;
61 FOR K=1 TO 15:N
   EXT K
62 PRINT CSR L-5;G
   $;B$;B$;B$;B$;B
   $;B$;E$;E$;E$;E
   $;H$;
63 FOR K=1 TO 15:N
   EXT K
64 PRINT CSR L-5;G
   $;E$;E$;E$;E$;C
   $;C$;F$;F$;F$;F
   $;H$;
65 FOR K=1 TO 15:N
   EXT K
66 PRINT CSR L;D$;
   D$;D$;D$;D$;D$;
   H$;
67 FOR K=1 TO 15:N
   EXT K
80 D=D+1
90 GOTO I
```



Eater Man Game

Mode, 0, Shift, 0, Press J & F in no order, quickly, again & again when the eater man vanishes. EXE to start again. A score over or equal to 30 gets replays to pile up all previous scores.

```
 1 'AC
10 A$="=":B$="(":C
   $="·":L=9:D$="
   ":E$=":":N=4
13 FOR Q=1 TO 200
14 IF L=1:A$=" ":B
   $=" ":PRINT CSR
    8;P;" ";
15 PRINT CSR L;E$;
   C$;E$;C$;
20 PRINT CSR N;A$;
25 FOR K=1 TO 10:N
   EXT K
30 PRINT CSR M;B$;
31 IF A$=" ":P=P-N
33 IF A$=" ":D$=KE
   Y:IF D$="F" THE
   N 43
35 IF L=8:L=9
36 IF L<11:L=L-1
37 I=INT (13*RAN#)
   :P=P+5
38 IF I<L:PRINT CS
   R L;D$;
39 IF I<11:I=I-1
40 IF I=1:A$=" ":B
   $=" "
41 IF A$=" ":P=P-2
   :GOTO 44
43 A$=KEY:IF A$="J
   ":A$="=":B$="("
44 PRINT CSR 0;P;
45 NEXT Q
46 PRINT " TOTAL="
   ;P;":REPLAYS";Z
   :IF P>30:Z=Z+1:
   GOTO 10
47 GOTO 1
```

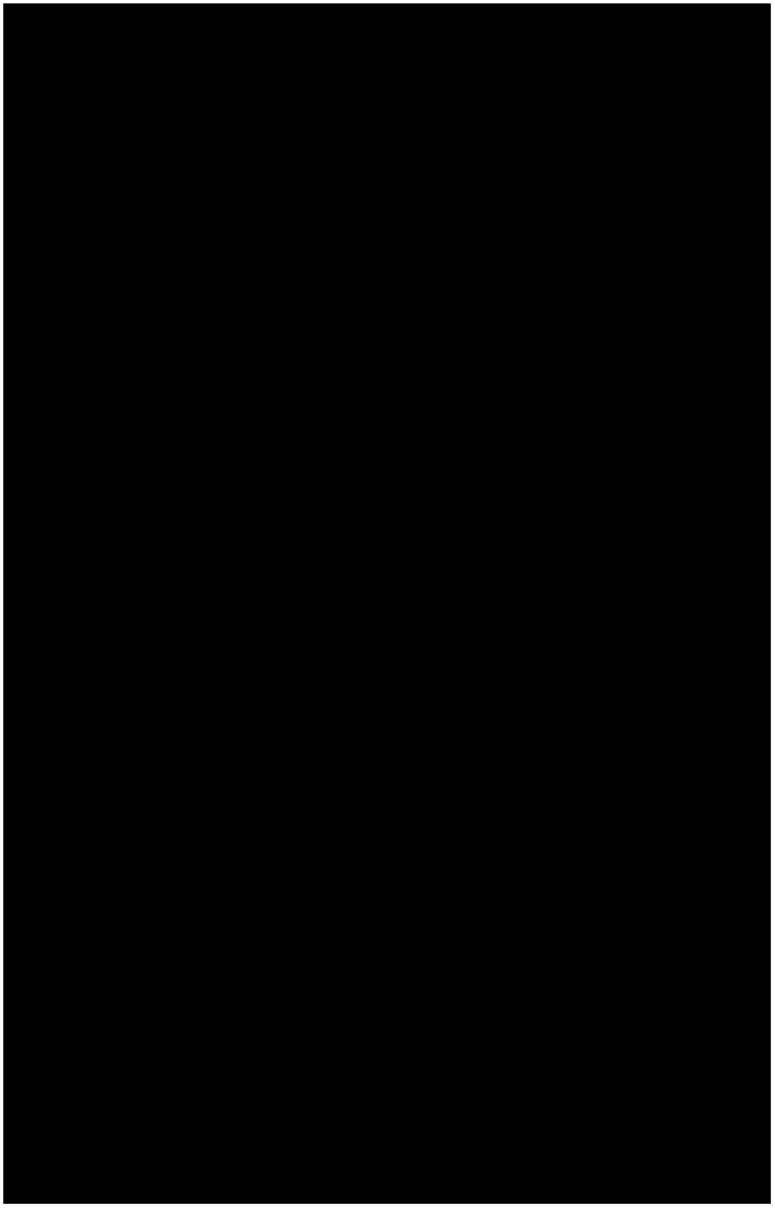


Winning % Game

The opponent is allowed 1 to 100 tries to guess the percentage you have entered.

Enter amt. of tries, EXE, #, EXE, 0, or 1, EXE, EXE

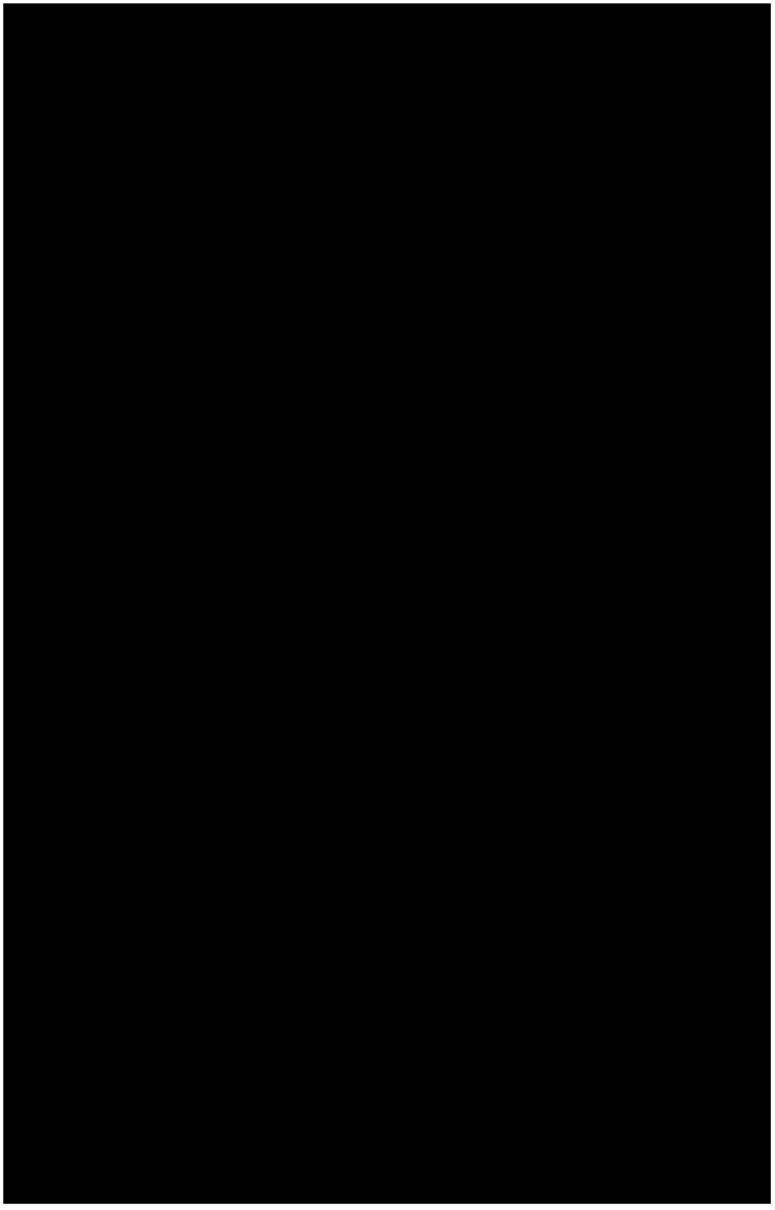
```
10 PRINT "WINNING
   % ";
15 VAC
20 INPUT " AMT.OF
   TRIES 1→100",A
30 INPUT " 2,3 OR
   4",B
32 INPUT "0 OR 1 T
   O RIG",I
40 GOSUB 100
45 G=G+1
50 PRINT CSR 1;C;D
   ;E;":";G;
60 IF B=C;M=M+1
61 IF B=D;J=J+1
62 IF E<B;M=0:J=0:
   E=0:GOTO 67
63 IF E>B;M=0:J=0:
   E=0:GOTO 67
64 IF B≠E;M=0:J=0:
   L=0:GOTO 67
65 IF B=E;L=L+1
67 IF M+J+L=3;F=F+
   1:M=0:J=0:L=0
68 M=0:J=0:L=0
69 IF G=A THEN 90
70 IF A≠G THEN 40
90 PRINT " TOTAL="
   ;F;
95 Z=(100/A)*F:PRI
   NT ":WIN %=";Z;
   "%";GOTO 15
100 C=INT (B*RAN#+I
   +1)
101 D=INT (B*RAN#+I
   +1)
102 E=INT (B*RAN#+I
   +1)
103 RETURN
```



Heads 'N Tails Games

To not test; type anything but T, EXE, EXE. For the test enter amt. of heads, EXE amt. of tails, EXE. If A * appears EXE until display gives amt. of heads & amt. of tails and amt. of tosses, EXE.

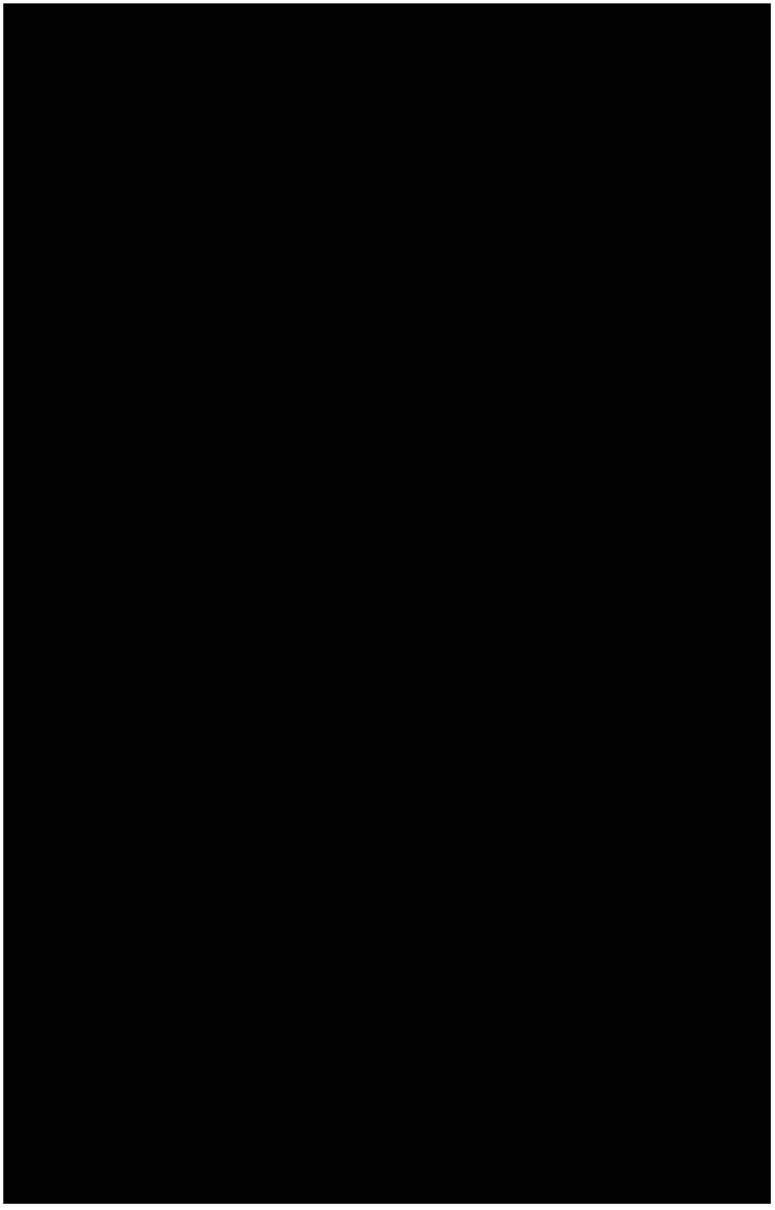
```
 10 PRINT "HEADS N'
    TAILS";
 15 INPUT ";TO TEST
    TYPE T",A$
 20 IF A$="T" THEN
    37
 25 GOSUB 100
 30 IF B=1;PRINT "H
    EADS":GOTO 15
 35 IF B=0;PRINT "T
    AILS":GOTO 15
 37 VAC
 40 INPUT "AMT.OF H
    EADS",C
 50 INPUT "AMT.OF T
    AILS",D
 60 GOSUB 100
 70 H=H+1
 80 IF B=1;E=E+1
 90 IF B=0;F=F+1
 91 IF E=C;PRINT "*
    ";IF F*D;E=C;F=
    F:GOTO 94
 92 IF E>C;E=E-1:IF
    F=D;PRINT E;F;
    H:GOTO 25
 93 GOTO 60
 94 IF F>D;F=F-2:GO
    TO 60
 95 GOTO 60
100 B=INT (RND*2)
105 RETURN
```



Shell Game

EXE, EXE, enter 1, 2, or 3, EXE, EXE, EXE

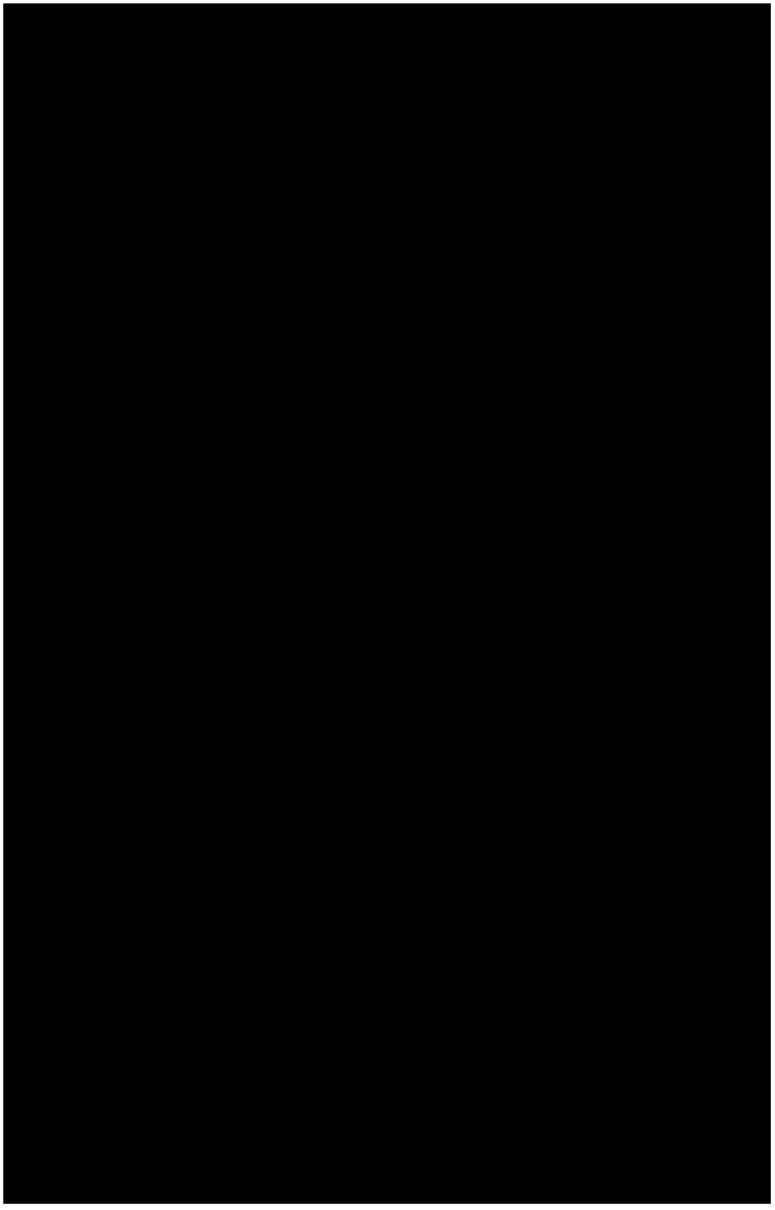
```
 1 PRINT "SHELL GA
   ME":B$="·":C$="
   ■":E$=" ":H=0
 2 PRINT CSR 7;B$;
   C$;C$:GOTO 20
 3 PRINT CSR 7;C$;
   B$;C$:GOTO 20
 4 PRINT CSR 7;C$;
   C$;B$:GOTO 20
 5 PRINT CSR 7;C$;
   C$;B$:GOTO 90
 6 I=0
20 A=INT (3*RAN#+1
   ):PRINT CSR A+6
   ;C$;
21 FOR K=1 TO 20:N
   EXT K
22 PRINT CSR A+6;E
   $;
23 PRINT CSR A+6;B
   $;
24 FOR K=1 TO 10:N
   EXT K
25 PRINT CSR A+6;E
   $;
26 H=H+1
30 IF H>20:H=0:GOT
   O 40
35 IF H<20 THEN 20
40 PRINT CSR 7;C$;
   C$;C$;
50 INPUT "1,2 OR 3
   ";F:G=INT (3*RA
   N#+1)
52 IF F=G:I=1:F=F+
   F:GOTO I
60 IF F=1:PRINT CS
   R 7;E$;C$;C$:GO
   TO 90
70 IF F=2:PRINT CS
   R 7;C$;E$;C$:GO
   TO 90
80 IF F=3:PRINT CS
   R 7;C$;C$;E$:GO
   TO 90
90 PRINT "PEA UNDE
   R";G:H=0:GOTO 2
   0
```



Math Quiz

Test math questions for elementary school age.
Enter answer EXE to enter another answer EXE and so on...

```
10 PRINT "-,+,X,÷,
   QUIZ:";
15 VAC
20 A=INT (10*RANN+
   1)
21 B=INT (10*RANN+
   1)
22 IF A<B THEN 20
25 PRINT A;" ";"-"
   ;
30 PRINT B;
35 INPUT " = ",C
40 A=A-B
45 IF C=A:PRINT "R
   IGHT":GOTO 55
50 IF C<A:PRINT "T
   RY AGAIN":GOTO
   15
55 GOSUB 300
60 PRINT A;" ";"+"
   ;
65 PRINT B;
70 INPUT " = ",C
75 A=A+B
80 IF A=C:PRINT "R
   IGHT":GOTO 90
85 IF A<>C:PRINT "T
   RY AGAIN":GOTO
   55
90 GOSUB 300
95 PRINT A;" ";"x"
   ;
100 PRINT B;
105 INPUT " = ",C
110 A=A*B
115 IF C=A:PRINT "R
    IGHT":GOTO 130
125 IF C<>A:PRINT "T
    RY AGAIN":GOTO
    90
130 GOSUB 300
133 A=A*5:B=5
134 IF A<B THEN 130
135 PRINT A;" ";"÷"
    ;
140 PRINT B;
145 INPUT " = ",C
150 A=A/B
154 IF C<>A:PRINT "T
    RY AGAIN":GOTO
    130
155 IF C=A:PRINT "R
    IGHT"
175 GOTO 15
300 A=INT (10*RANN+
    1)
305 B=INT (10*RANN+
    1)
310 RETURN
```



Super Business Register

Cash register. Business bookkeeping.

Enter 0, EXE, 0, EXE enter total charges: no tax, EXE enter anything but 1 if total charge is to have tax added, EXE enter tax %, EXE, EXE enter amt. rec., EXE, to not re-do transaction enter anything but 1, EXE and again. Enter cost of items sold, EXE, EXE, EXE, EXE enter approx. daily expenses to run the business, EXE, EXE to keep memory even if PC-4 was off enter anything but 0, EXE enter 1 to review daily totals or 0 to continue transacting. Note: This program is designed to be run with a printer, if a printer is not used remove all Mode 7 and Mode 8 statements.

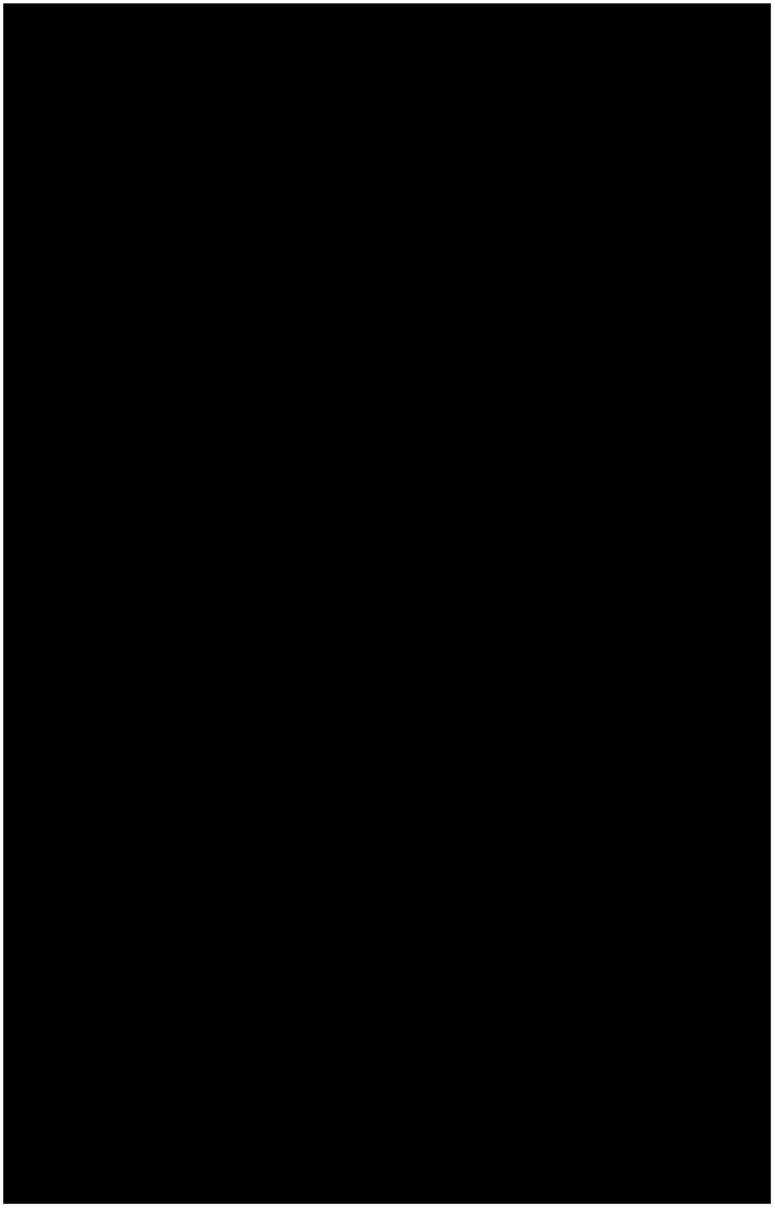
```
 5 GOTO 209
10 X=0:T=0:G=0:A=0
   :B=0:Q=0:D=0:N=
   0:P=0:F=0:K=0:M
   =0
15 INPUT "TYPE 1,F
   OR DAILY TOTALS
   ",V:IF V=1 THEN
    187
17 MODE 7
20 INPUT "CHARGE:N
   O TAX",X:K=K+X:
   M=X
21 MODE 8
22 INPUT "IF NON-T
   AXABLE,1",J
23 IF J=1 THEN 30
24 IF S>0 THEN 27
25 INPUT "TAX %,.0
   65",S
27 X=(X*S)+X:X=RND
   (X,-3):MODE 7:P
   RINT "AMT+TAX";
   X:MODE 8
30 F=X-M:MODE 7:IN
   PUT "AMT. REC."
   ,T:MODE 8
35 INPUT "RE-DO,1"
   ,E:IF E=1:K=K-X
   :F=F-S:GOTO 20
41 B=0:B=INT (T-X)
51 A=0:A=(T-X)-B
60 IF A(.25 THEN 9
   0
70 Q=Q+1:A=A-.25
80 GOTO 60
90 IF A(.10 THEN 1
   20
100 D=D+1:A=A-.10
 10 GOTO 90
120 IF A(.05 THEN 1
   50
130 N=N+1:A=A-.05
140 GOTO 120
150 P=A*100:IF P<0;
   A=0
159 MODE 7
160 PRINT "CHANGE="
   ;B;"$ ";Q;"Q'S
   ";D;"DIMES ";N;
   "NICKLE";
170 PRINT " ";P;"PE
   NNIES ";
174 MODE 8
175 INPUT "RE-DO,1"
   ,E:IF E=1:K=K-X
   :F=F-S:B=0:Q=0:
   D=0:N=0:P=0
176 IF E=1 THEN 20
180 MODE 7
181 INPUT "COST OF
   ITEM",Y
182 MODE 8
183 I=I+F
185 Y=ABS ((K+F)-Y)
   +M
186 C=C+1
187 M=Y
188 MODE 7
190 PRINT "GROSS PR
   OFIT";M
192 PRINT "TOTAL TA
   X";I
193 PRINT "TOTAL RE
   CIPTS";C
194 IF L>0 THEN 196
195 INPUT "DAILY EX
   PENSES",L
196 IF M>L:M=M-I-L:
   GOTO 190
```

```
197 IF W<L:M=L-W+1:
    GOTO 199
198 PRINT "NET PROF
    IT";M:GOTO 209
199 PRINT "NET LOSS
    ";M:GOTO 209
200 MODE 0
209 INPUT "CLEAR AL
    L,0";Z:IF Z<>0 T
    HEN 220
210 GOTO 10
220 VAC
225 GOTO 10
```

Spear the Ohm Game

This game gives different times for you to spear the Ohm and if an Ohm makes other Ohms you must turn the arrow by pressing letter I or P depending on Ohms, newest place on screen. Object is to spear the newest, or original, if original is the only Ohm on screen before time is used up.

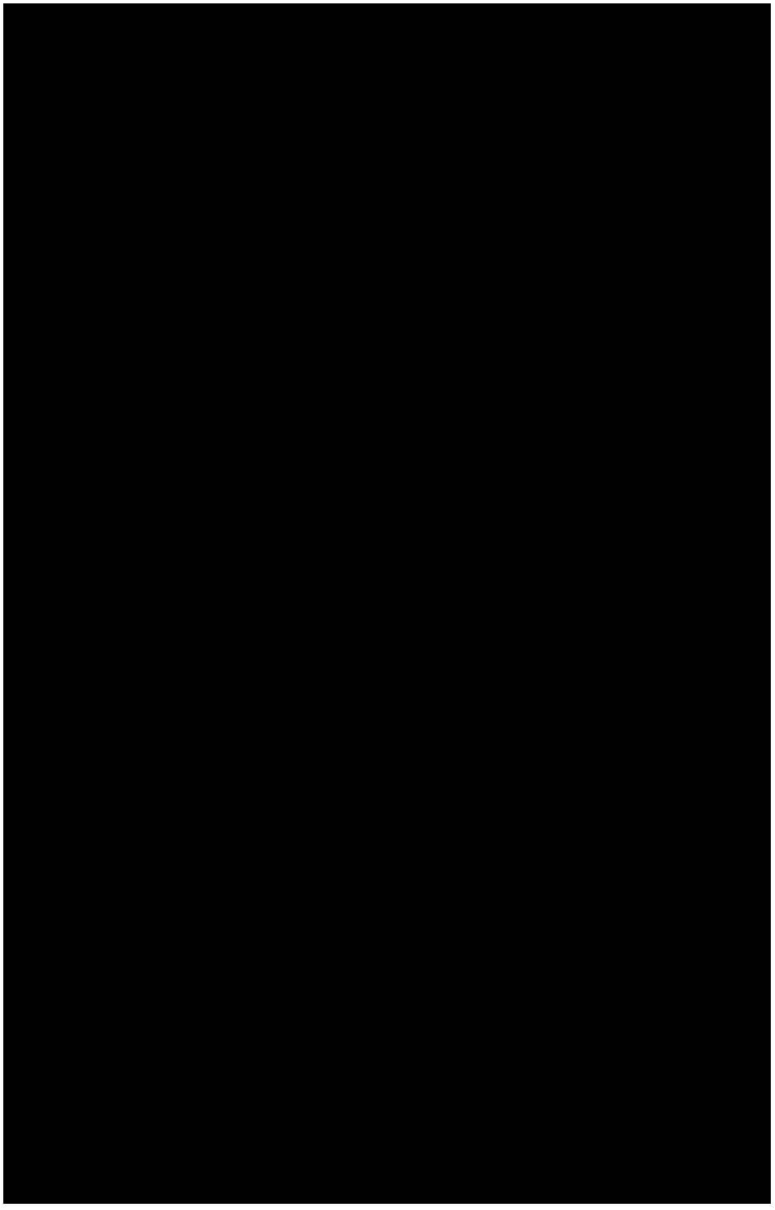
```
10 VAC
20 A$=" ":B$=" ":C
   $=" ":D$=" ":E$
   =" ":F$=" ":Q=1
   :T=2
30 G$=" ":H$=" ":K
   $="+":L$="■":Q$
   ="+"
35 U$="Ω"
36 Z=68:Z=INT (9*R
   AN$+1)*10+2
37 GOTO 210
60 PRINT CSR 6;1;A
   $;B$;C$;D$;E$;F
   $;G$;H$;L$;
64 M$=KEY
65 IF M$="P":Q=Q+1
   :PRINT CSR Q;M$
   ;
66 M$=KEY
67 IF Q<0 THEN 70
68 IF M$="I":Q=Q-1
   :PRINT CSR Q;Q$
   ;
69 IF Q=T:PRINT CS
   R T+1;N$:Y=Y+1:
   GOTO 350
70 PRINT CSR 0;2;A
   $;B$;C$;D$;E$;F
   $;G$;H$;L$;
74 M$=KEY
75 IF M$="P":Q=Q+1
   :PRINT CSR Q;M$
   ;
76 M$=KEY
77 IF Q<0 THEN 80
78 IF M$="I":Q=Q-1
   :PRINT CSR Q;Q$
   ;
79 IF Q=T:PRINT CS
   R T+1;N$:Y=Y+1:
   GOTO 350
80 PRINT CSR 0;3;A
   $;B$;C$;D$;E$;F
   $;G$;H$;L$;
84 M$=KEY
85 IF M$="P":Q=Q+1
   :PRINT CSR Q;M$
   ;
86 M$=KEY
87 IF Q<0 THEN 90
88 IF M$="I":Q=Q-1
   :PRINT CSR Q;Q$
   ;
89 IF Q=T:PRINT CS
   R T+1;N$:Y=Y+1:
   GOTO 350
90 PRINT CSR 0;4;A
   $;B$;C$;D$;E$;F
   $;G$;H$;L$;
94 M$=KEY
95 IF M$="P":Q=Q+1
   :PRINT CSR Q;M$
   ;
96 M$=KEY
97 IF Q<0 THEN 100
98 IF M$="I":Q=Q-1
   :PRINT CSR Q;Q$
   ;
99 IF Q=T:PRINT CS
   R T+1;N$:Y=Y+1:
   GOTO 350
100 PRINT CSR 0;5;A
   $;B$;C$;D$;E$;F
   $;G$;H$;L$;
104 M$=KEY
105 IF M$="P":Q=Q+1
   :PRINT CSR Q;M$
   ;
108 IF M$="I":Q=Q-1
   :PRINT CSR Q;Q$
   ;
109 IF Q=T:PRINT CS
   R T+1;N$:Y=Y+1:
   GOTO 350
110 PRINT CSR 0;6;A
   $;B$;C$;D$;E$;F
   $;G$;H$;L$;
114 M$=KEY
115 IF M$="P":Q=Q+1
   :PRINT CSR Q;M$
   ;
```



Bowling Scores

Enter first balls pin-fall, example 5, EXE. Enter second balls pin-fall, including the first balls total. Example: on the second ball you got 5 so 10, EXE. Follow this till the computer displays your score on and on... that is your final score. Start over by Mode 0, Shift 0.

```
10 I=10:H=1:J=0:G=
   0:F=0:B=0:D=0:K
   =0:L=0:M=0
20 INPUT ":1",A:H=
   H+1
21 IF A=I:F=F+1:M=
   A
24 IF F=3:D=D+30:F
   =2:GOTO 140
25 IF B=1:D=D+A+10
   :J=J+1:B=0
26 IF F>1 THEN 140
27 IF H≥12:K=2:H=1
   0:GOTO 230
29 IF A=I:M=0:GOTO
    20
30 INPUT "2",B
31 IF F=1 THEN 120
32 IF G=1 THEN 160
46 IF B=I:D=D+B
47 IF H≥11:H=10:L=
   1:GOTO 220
50 PRINT D;":FRAME
   ";H;
52 IF L=1:H=11
55 IF H>10:K=K+1:G
   OTO 180
56 IF K>6:H=10:GOT
   O 50
70 IF J≥1:J=0:GOTO
    210
80 M=0:GOTO 20
120 IF B=I:D=D+20:F
    =0:M=0:GOTO 47
126 IF H=12:D=D+B+1
    0:F=0:M=0:GOTO
    47
127 IF B*I:D=D+B+10
    +B:F=0:M=0:GOTO
     47
140 IF D=300:H=11:L
    =1:K=1:GOTO 56
141 IF H=13:H=11:L=
    1:K=2:M=0:GOTO
    47
142 INPUT ":1st.",A
    :H=H+1
145 IF A*I:D=D+A+20
    :G=1:F=0:M=0:GO
    TO 30
147 IF A=I:F=F+1
150 GOTO 24
160 IF B=0:H=11:L=1
    :K=2:GOTO 220
162 IF H=12 THEN 25
    0
165 IF B*I:D=D+B+10
    +B:F=0:G=0:M=0
167 IF B=I:D=D+20:F
    =0:G=0:M=0
170 GOTO 47
180 IF K>1:H=10:GOT
    O 50
181 IF M=I THEN 20
185 IF B=I THEN 20
190 IF A*I:K=2
195 IF B*I:K=3
200 GOTO 56
210 IF M=1:D=D+20:M
    =0:F=0:GOTO 47
213 IF H≥11:H=11:L=
    I:K=2:GOTO 47
215 GOTO 20
220 IF M=I:D=D+A
225 GOTO 52
230 IF A*I:H=12:K=1
    :GOTO 30
235 IF M=I:K=2:GOTO
     56
240 K=1:GOTO 50
250 IF B*I:D=D+B+10
    :F=0:G=0:M=0
260 IF B=I:D=D+20:F
    =0:G=0:M=0
270 GOTO 47
```

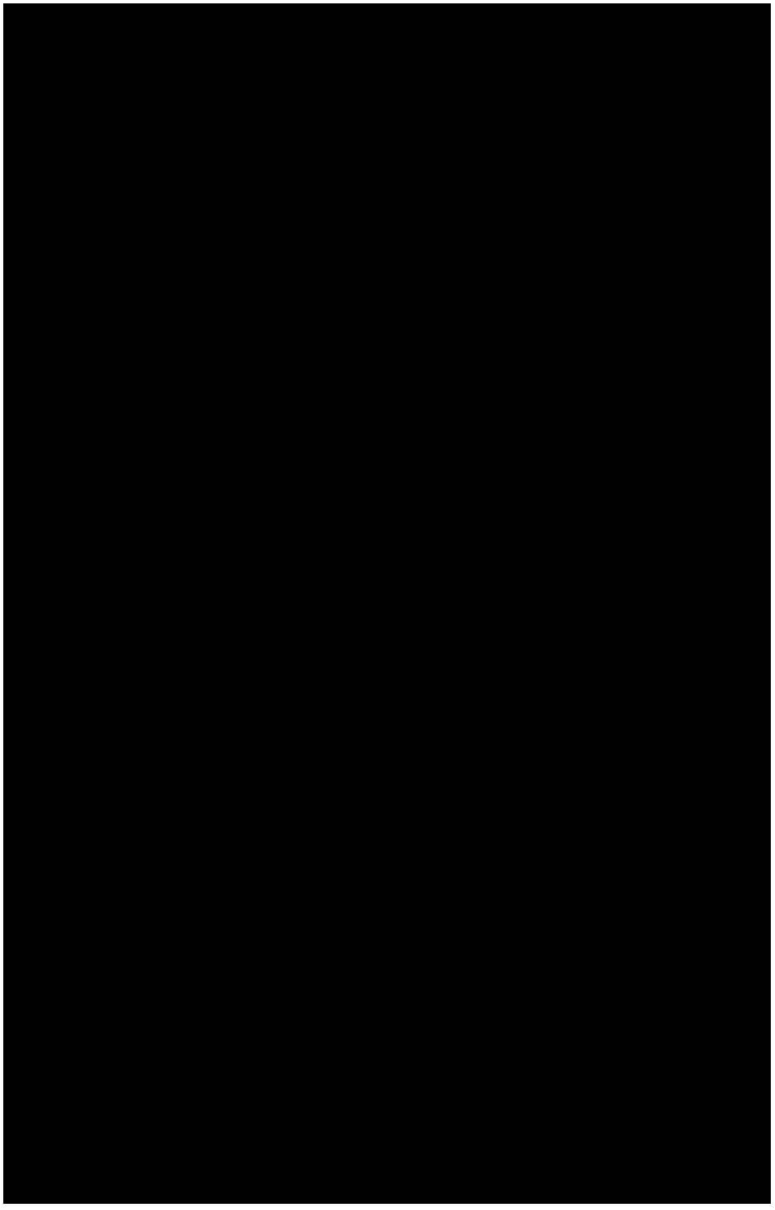


Numbers

You can change this game by making the number 7 on line 30 any number lower than 7. Don't tell your number!!!! This game uses 4 players and the last player can make anyone win. First the program tells what game you're playing. You add your secret number to the game number and wait. Now the players input 5 numbers each and the computer adds up the numbers. Now it's your turn!!!! To make your number win, subtract 3 from your game plus secret number. To make the 3rd player win, subtract 2. To make the 2nd player win, subtract 1. To make the first player win, subtract 0. So if it's game 8 and your number is 7 then you must input 5 digits that add up to 12 for you to win. Example 2 EXE, 4 EXE, 1 EXE, 0 EXE, 5 EXE.

The fourth player wins by subtracting 3

```
10 A=0:C=0:D=0:F=0
   :B=0:X=0:J=0:E=
   0
20 PRINT "NUMBERS:
   INPUT 5 DIGITS
   ";
30 A=A+1:B=A+7:D=0
40 PRINT "GAME ";A
   ;
50 INPUT J:X=X+1
60 C=C+J:IF X<5 TH
   EN 50
70 X=0
80 IF B=38:PRINT "
   THIS GAME IS OV
   ER":GOTO 10
90 E=E+1
100 GOSUB 300
150 IF E<4 THEN 250
200 IF F=1:PRINT "W
    INNER 1";
210 IF F=2:PRINT "W
    INNER 2";
220 IF F=3:PRINT "W
    INNER 3";
230 IF F=4:PRINT "W
    INNER 4";
250 IF E=4:E=0:C=0:
    GOTO 30
260 C=0
270 PRINT "PLAYER "
    ;E+1;
280 GOTO 50
300 IF C=B:F=1
310 IF C=B-1:F=2
320 IF C=B-2:F=3
330 IF C=B-3:F=4
340 RETURN
```



Moon Over Head

This program tells what time the moon will be over us in the sky. First the program asks, M.TIME IN? That's military time into orbit. If your study starts from the first day of our calendar, input 24 EXE. Now the program asks for total days. From day 1 to 10/2/84 we have 724931 days. Input 724931. The read-out should say PM 6 18. So on 10/2/84 the moon was over us in the sky at 6 18 PM. Now for study from 10/2/84 your M.TIME IN is 18 which is 6 PM. If you get a day moon over head look in your local newspaper for moon rise and set times and check the program by that info.

```
10 A=0:B=0:C=0:D=0
   :E=0:F=0:G=0:H=
   0:I=0:L=0:J=0
20 INPUT "M.TIME I
   N",J
25 INPUT "TOTAL DA
   YS",B
35 B=(B+J)
37 IF J≥16:B=B+3
38 IF J≥15:B=B+2
39 IF J≥0:B=B-1
40 A=B/29.52055
50 C=A-INT (A)
60 D=C/.0367647058
70 E=(D-INT (D))-1
80 L=(D-E)-1
90 E=(L*52.9411)/6
   0
100 C=(E-INT (E))-1
110 D=E-C
120 D=ABS (D)
122 IF D≥12:PRINT C
    SR [0;"PM";
123 IF D<12:PRINT C
    SR 10;"AM";
130 F=ABS (C)
140 G=F/.0189736039
150 H=G
160 G=INT (G)
170 I=0
180 IF I>12:I=I-12
190 IF I>12 THEN GO
    TO 180
200 PRINT I;" ";G
210 GOTO 10
```

THE PROGRAM BEGINS

by Gerald Krug

Imagine having more than 50 computer programs at your disposal without having to spend thousands of dollars to acquire them! Impossible, you say? Wrong. Gerald Krug has written a unique book, *The Program Begins*, which provides the necessary tools for the more serious or occasional computer user to look at a program, understand how to dig right into it and go to it.

As Krug points out, his book is a compilation of access information which allows the user to utilize every program imaginable to its fullest extent; to go beyond the instruction manuals.

"Most people are natural programmers," Krug says. "But, the manuals they receive with their computers or programs really don't 'show' how to get the most out of their investment."

Krug says he decided to write this book for the very reason most people lose interest in computers. "They just aren't getting enough information to make the most of the computer and they don't want to spend a lot of money to buy more frustrating programs."

No, *The Program Begins* is not a "how to" book. It is an invaluable collection of easy to understand programs which most computers readily adapt to without having to buy the "extras". Sounds incredible, but Krug's extensive research reveals an exceptional insight into programming which guarantees that his findings can save immeasurable time, avoid a lot of frustration and, most importantly, save thousands of dollars.

Krug's explanations are such that even the occasional computer "dabbler" can see a program, understand how to get into it and learn how to have a lot of fun at the same time.

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