

digital group software systems inc.

MAXI-BASIC Game Set 3

After having loaded the MAXI-BASIC Interpreter into your computer and selected the appropriate option (i.e. TV-only or HARDCOPY) start your audio cassette playing at the proper point and then type

LOADcr

Then wait until the

READY

message appears on the screen.

The programs on this tape are recorded in the following order:

#1 AWARI	63-72
#2 TARGET	63-75
#3 BULCOW	63-71
#4 LOAN PAYMENTS	63-71
#5 BUTTON-BUTTON	63-70

Once the READY Message appears after the load; Type

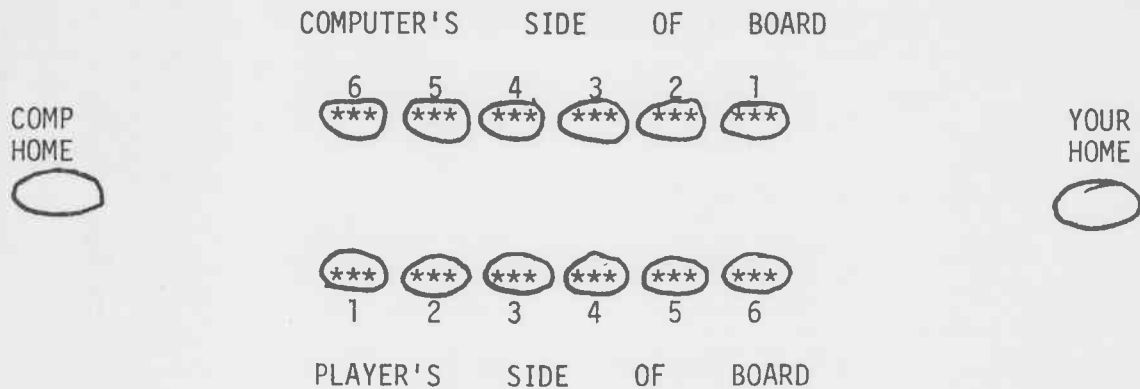
RUNcr

to start the program running.

All programs on this tape are self documenting in terms of execution instructions, or there are instructions provided in the documentation. In addition the directions, where applicable, can be read in the source listings as well as in the run examples.

Since BASIC is a character and line oriented language these programs should run equally well with either 32 or 64 character video display. However, there is the possibility that minor changes in some of the PRINT statements might make the output more appealing to an individual user; such changes are left to the discretion of the user since complete source and run listings have been provided.

AWARI GAME DIRECTIONS



In the game of AWARI, two players sit upon opposite sides of a playing area arranged as shown above. Each player has six "PITS" in front of himself which each initially contains three objects (stones, beans, etc.). In addition, to the right of each player is a seventh PIT which is known as the player's HOME.

The players take turns moving. Each player in his turn takes all of the beans from any one of his six PITS, and starting with the PIT to the right of the one from which the beans were taken, places one bean in each PIT (including HOME) in a counter-clockwise direction.

If on the first move of a player's turn, the last bean placed is placed in his own HOME, he may make a second move (two moves per turn is maximum). If the last bean placed on a move is placed in an empty PIT, and the opposite PIT is not empty, the player captures the beans in the opposite PIT as well as the last bean sown. He then places the captured beans in his HOME.

If at the end of a move by either player, all of the PITS of either side become empty, the game is over. The player with the most beans in his HOME is the winner.

READY
LIST

```
1 REM THE GAME OF AWARI
5 DATA 0
10 DIM B(13),G(13),F(50):READ N
15 FOR I=0 TO N-1:READ F(I):NEXT I
20 #"":PRINT "GAME OF AWARI":LET E=0
25 FOR I=0 TO 12:LET B(I)=3:NEXT I
30 LET C=0 :LET F(N)=0 :LET B(13)=0 :LET B(6)=2
35 GOSUB 500
40 PRINT "YOUR MOVE";:GOSUB 110
45 IF E=0 THEN 80
50 IF M=H THEN GOSUB 100
55 IF E=0 THEN 80
60 PRINT "MY MOVE IS ";:GOSUB 800
65 IF E=0 THEN 80
70 IF M<>H THEN 75
72 PRINT ",":GOSUB 800
75 IF E>0 THEN 35
80 #"":PRINT "GAME OVER"
95 LET D=B(6)-B(13) :IF D<0 THEN PRINT "I WIN BY";-D;" POINTS":GOTO 20
90 LET N=N+1 :IF D=0 THEN PRINT "DRAWN GAME":GOTO 20
95 PRINT "YOU WIN BY";D;" POINTS":GOTO 20
100 PRINT "AGAIN";
110 INPUT M :IF M<7 THEN IF M>0 THEN LET M=M-1:GOTO 130
120 PRINT "ILLEGAL MOVE ";:GOTO 100
130 IF B(M)=0 THEN 120
140 LET H=6 :GOSUB 200
150 GOTO 500
200 LET K=M :GOSUB 600
205 LET E=0 :IF K>6 THEN LET K=K-7
210 LET C=C+1 :IF C<9 THEN LET F(N)=F(N)*6+K
215 LET I=0 :LET I1=5
217 IF B(I)<>0 THEN 230
218 LET I=I+1
220 IF I<=I1 THEN 217
225 RETURN
230 LET I=7 :LET I1=12
231 IF B(I)=0 THEN 235
232 LET E=1 :RETURN
235 LET I=I+1
236 IF I<=I1 THEN 231
237 GOTO 220
500 #"":PRINT " ";
505 FOR I=12 TO 7 STEP -1 :GOSUB 580
510 NEXT I
515 #"":LET I=13 :GOSUB 580
520 PRINT " ";B(6):PRINT " ";
525 FOR I=0 TO 5 :GOSUB 580
530 NEXT I
535 #"":#"":RETURN
580 IF B(I)<10 THEN PRINT " ";
585 PRINT B(I);:RETURN
600 LET P=B(M) :LET B(M)=0
605 FOR P=P TO 1 STEP -1 :LET M=M+1 :IF M>13 THEN LET M=M-14
610 LET B(M)=B(M)+1 :NEXT P
615 IF B(M)=1 THEN IF M<>6 THEN IF M<>13 THEN IF B(12-M)<>2 THEN 625
620 RETURN
625 LET B(H)=B(H)+B(12-M) :LET B(M)=0 :LET B(12-M)=0 :RETURN
800 LET D=-99 :LET H=13
```

```
805 FOR I=0 TO 13 :LET G(I)=B(I) :NEXT I
810 FOR J=7 TO 12 :IF B(J)=0 THEN 885
815 LET Q=0 :LET M=J :GOSUB 600
820 FOR I=0 TO 5 :IF B(I)=0 THEN 845
825 LET L=B(I)+I :LET R=0
830 IF L>13 THEN LET L=L-14 :LET R=1 :GOTO 830
835 IF B(L)=0 THEN IF L<>6 THEN IF L<>13 THEN LET R=B(12-L)+R
840 IF R>Q THEN LET Q=R
845 NEXT I
850 LET Q=B(13)-B(6)-Q :IF C>8 THEN 875
855 LET K=J :IF K>6 THEN LET K=K-7
860 FOR I=0 TO N-1 :IF F(N)*6+K=INT(F(I)/6^(7-C)+0.1) THEN LET Q=Q-2
870 NEXT I
875 FOR I=0 TO 13 :LET B(I)=G(I) :NEXT I
880 IF Q>=D THEN LET A=J :LET D=Q
885 NEXT J
890 LET M=A :PRINT CHR$(42+M);:GOTO 200
900 FOR I=0 TO N-1 :PRINT F(I) :NEXT I
9999 END
```

READY
SAVE

READY
SAVE

READY
SAVE

READY
PRINT "SIZE=";13*1024-FREE(09_)
SIZE= 1791
READY

READY
RUN

GAME OF AWARI

0 3 3 3 3 3 3 0
3 3 3 3 3 3

YOUR MOVE?5

0 3 3 3 3 3 4 1
3 3 3 3 0 4

MY MOVE IS 2

0 3 4 4 4 0 4 1
3 3 3 3 0 4

YOUR MOVE?4

0 3 4 4 4 0 4 2
3 3 3 0 1 5

AGAIN?1

2 3 4 4 0 0 4 6
0 4 4 0 1 5

MY MOVE IS 6

1 0 4 4 0 0 4 6
1 5 4 0 1 5

YOUR MOVE?1

1 2 4 4 0 0 4 6
2 6 4 0 1 5

MY MOVE IS 5

2 1 0 4 2 0 4 6
1 7 4 0 1 5

YOUR MOVE?2

2 1 0 4 0 0 5 9
1 0 5 1 0 6

MY MOVE IS 6,4

4 1 1 0 0 0 5 9
2 0 5 1 0 6

YOUR MOVE?3

4 1 1 2 2 2 6 10
2 2 2 2 1 7

MY MOVE IS 5

4 2 2 2 2 6 12
2 2 2 2 1 7

YOUR MOVE?1

4 2 2 2 2 6 12
2 1 1 2 1 7

MY MOVE IS 1,6

6 2 1 1 1 1 12
1 2 1 2 1 7

YOUR MOVE?6

6 2 2 2 2 1 12
2 2 1 2 1 7

MY MOVE IS 5,3

9 1 2 3 2 2 1 12
2 2 1 2 1 7

YOUR MOVE?4

9 1 2 3 2 2 13
2 2 1 2 2 2

MY MOVE IS 6,4

11 1 1 2 2 2 2 13
2 2 1 2 2 2

YOUR MOVE?5

11 1 1 2 2 2 2 14
2 2 1 2 2 1

AGAIN?6

11 1 1 2 2 2 2 15
2 2 1 2 2 2

MY MOVE IS 6,2

GAME OVER

YOU WIN BY 2 POINTS

GAME OF AWARI

READY
RUN

YOU ARE THE WEAPONS OFFICER ON
THE STAR SHIP ENTERPRISE AND
THIS IS A TEST TO SEE HOW WELL
YOU CAN SHOOT IN A THREE-
DIMENSIONAL RANGE. YOU WILL BE
TOLD THE RADIAN OFFSET FOR THE
X AND Z AXES, THE LOCATION OF
THE TARGET IN THREE-DIMENSIONAL
RECTANGULAR COORDINATES, THE
APPROXIMATE NUMBER OF DEGREES
FROM THE X AND Z AXES, AND THE
APPROXIMATE DISTANCE TO THE
TARGET. YOU WILL THEN PROCEED
TO SHOOT AT THE TARGET UNTIL IT
IS DESTROYED!

(RETURN)

GOOD LUCK

RADIANS FROM X AXIS = 1.0267184
FROM Z AXIS = .14229656
DEGREES FROM X AXIS = 58
FROM Z AXIS = 8
TARGET SIGHTED.
APPROX COORDS X = 1789.030
Y = 2957.141
Z = 24124.544
ESTIMATED DISTANCE = 24370.000
INPUT ANGLE DEVIATION FROM X 58
FROM Z 8
DISTANCE FROM ORIGIN 24375

RADIANS FROM X AXIS = 1.012291
FROM Z AXIS = .13962634
SHOT IN FRONT OF TARGET 8.6384
KILOMETERS.
SHOT TO RIGHT OF TARGET 80.2694
KILOMETERS.
SHOT ABOVE TARGET 13.241
KILOMETERS.
APPROX POSITION OF EXPLOSION:
X = 1797.668
Y = 2876.871
Z = 24137.785
DISTANCE FROM TARGET = 81.812

ESTIMATED DISTANCE = 24370.000
INPUT ANGLE DEVIATION FROM X 58.2
FROM Z 7.98
DISTANCE FROM ORIGIN 24371

BULCOW GAME INSTRUCTIONS

BULCOW is a two player game in which each player tries to guess a 5-digit number thought up by his opponent. For each player's guess, his opponent must score the guess against the mystery number in the following manner:

- A. for each digit which is not only correct, but also in the correct position, score 1 BULL
- B. for each digit which is correct, but is not in the correct position, score 1 COW

For example:

Mystery Number	23659))-----Score 1 BULL 2 COWS
The Guess	13465)	


```
590 LET G(P)=G(P)+3 :IF G(P)>9 THEN LET G(P)=G(P)-10
600 IF P=2 THEN IF G(P)=D(1,0) THEN 310
610 IF G(P)<>D(J,P) THEN 520
620 # " !";
630 LET P=P-1 :IF P<0 THEN 310
640 GOTO 590
650 LET A=A+1 :IF A<=J THEN 570
660 LET P=P+1 :IF P<5 THEN 510
670 LET J=J+1
680 FOR I=0 TO 4 :LET D(J,I)=G(I) :NEXT I
690 RETURN
700 END
READY
```

READY
RUN

YOUR GUESS? 12345
1 BULL 1 COW
MY GUESS IS 12860 MY SCORE?2,0
YOUR GUESS? 97531
0 BULLS 3 COWS
THINKING

MY GUESS IS 12493 MY SCORE?2,2
YOUR GUESS? 68531
0 BULLS 2 COWS
THINKING

MY GUESS IS 12749 MY SCORE?3,0
YOUR GUESS? 07935
0 BULLS 3 COWS
THINKING!!

MY GUESS IS 12345 MY SCORE?5,0
I WIN - MY NUMBER WAS 89374

YOUR GUESS?

READY
LIST

```
10 REM DECLINING INTEREST PROGRAM
20 REM BY TOM RUGG & PHIL FELDMAN - OCT.1976
30 REM ADAPTEL TO MAXI-BASIC BY J.R.BULL JR./SR.-1/29/77
40 #":# DECLINING INTEREST PROGRAM
50 #
60 INPUT "AMOUNT OF LOAN $",A
70 INPUT "INTEREST RATE (E.G.,9.25)",R,"M"
80 INPUT "LENGTH OF LOAN (IN MONTHS) ?",M
90 IF M<>INT(M) THEN 80
100 INPUT "WANT PAYMENT CALCULATED FOR YOU ? ".B$
110 #C$14F2;A;: FOR ";%3I;M; " MONTHS AT ";%C6F2;R; " %"
120 IF B$(1,1)="Y" THEN 140
130 INPUT "WHAT'S THE MONTHLY PAYMENT ? $",P
140 REM CONVERT INTEREST RATE FROM PCT/YEAR TO DECIMAL/MONTH
150 R=R/1200
160 IF B$(1,1)<>"Y" THEN 240
170 REM CALCULATE MONTHLY PAYMENT AND ROUND UP TO CENTS
180 REM LINE 200 MIGHT CAUSE AN ERROR IN C
190 B=(1+R)
200 B1=(LOG(B))*M
210 C=EXP(B1)
220 P=A*((R*C)/(C-1))
230 P=(P*100)+1:P=INT(P):P=P/100
240 # "MONTHLY PAYMENT = ";%C$12F2;P
250 REM PRINT EITHER A MONTHLY BREAKDOWN OR JUST TOTAL PAYMENTS
260 INPUT "WANT A MONTHLY BREAKDOWN?",B$
270 IF B$(1,1)="N" THEN 310
280 IF B$(1,1)<>"Y" THEN 260
290 #
300 # "MONTH BALANCE INTEREST INT T.D PRINCIPAL PRIN T.I"
310 Z=0
320 T=Z
330 I2=Z
340 N2=Z
350 P2=Z
360 B=A
370 FOR K=1 TO M
380 I=B*R
390 I=(I*100)+1:I=INT(I):I=I/100
400 IF K=M THEN P=B+1
410 P2=P2+P
420 N=P-I:B=B-N:I2=I2+I:N2=N2+N
430 IF B$(1,1)="N" THEN 450
440 #TAB(1);K;TAB(8);B;TAB(19);I;TAB(31);I2;TAB(42);N;TAB(55);N2
450 NEXT K
460 # "FINAL PAYMENT = ";%C$12F2;F
470 # "TOTAL PAYMENTS = ";%C$14F2;P2;# ""
480 INPUT "WANT TO DO ANOTHER ONE ".B$
490 IF B$(1,1)="Y" THEN 60
500 IF B$(1,1)<>"N" THEN 480
510 END
READY
```

READY
RUN

DECLINING INTEREST PROGRAM

AMOUNT OF LOAN \$32000
INTEREST RATE (E.G., 9.25) 9.00
LENGTH OF LOAN (IN MONTHS) ? 360
WANT PAYMENT CALCULATED FOR YOU ? YES
\$32,000.00 FOR 360 MONTHS AT 9.00 %
MONTHLY PAYMENT = \$257.49
WANT A MONTHLY BREAKDOWN? YES

MONTH	BALANCE	INTEREST	INT T.D	PRINCIPAL	PRIN T.D
1	31982.52	240.01	240.01	17.48	17.48
2	31964.9	239.87	479.88	17.62	35.1
3	31947.15	239.74	719.62	17.75	52.85
4	31929.27	239.61	959.23	17.88	70.73
5	31911.25	239.47	1198.7	18.02	88.75
6	31893.1	239.34	1438.04	18.15	106.9
7	31874.81	239.2	1677.24	18.29	125.19
8	31856.39	239.07	1916.31	18.42	143.61
9	31837.83	238.93	2155.24	18.56	162.17
10	31819.13	238.79	2394.03	18.7	180.87
11	31800.29	238.65	2632.68	18.84	199.71
12	31781.31	238.51	2871.19	18.98	218.69
13	31762.18	238.36	3109.55	19.13	237.82
14	31742.91	238.22	3347.77	19.27	257.09
15	31723.5	238.08	3585.85	19.41	276.5
16	31703.94	237.93	3823.78	19.56	296.06
17	31684.23	237.78	4061.56	19.71	315.77
18	31664.38	237.64	4299.2	19.85	335.62
19	31644.38	237.49	4536.69	20	355.62
20	31624.23	237.34	4774.03	20.15	375.77
21	31603.93	237.19	5011.22	20.3	396.07
22	31583.47	237.03	5248.25	20.46	416.53
23	31562.86	236.88	5485.13	20.61	437.14
24	31542.1	236.73	5721.86	20.76	457.9
25	31521.18	236.57	5958.43	20.92	478.82
26	31500.1	236.41	6194.84	21.08	499.9
27	31478.87	236.26	6431.1	21.23	521.13
28	31457.48	236.1	6667.2	21.39	542.52
29	31435.93	235.94	6903.14	21.55	564.07
30	31414.21	235.77	7138.91	21.72	585.79
31	31392.33	235.61	7374.52	21.88	607.67
32	31370.29	235.45	7609.97	22.04	629.71
33	31348.08	235.28	7845.25	22.21	651.92
34	31325.71	235.12	8080.37	22.37	674.29
35	31303.17	234.95	8315.32	22.54	696.83
36	31280.46	234.78	8550.1	22.71	719.54
37	31257.58	234.61	8784.71	22.88	742.42
38	31234.53	234.44	9019.15	23.05	765.47
39	31211.3	234.26	9253.41	23.23	788.7
40	31187.9	234.09	9487.5	23.4	812.1
41	31164.32	233.91	9721.41	23.58	835.68
42	31140.57	233.74	9955.15	23.75	859.43
43	31116.64	233.56	10188.71	23.93	883.36
44	31092.53	233.38	10422.09	24.11	907.47
45	31068.24	233.2	10655.29	24.29	931.76
46	31043.77	233.02	10888.31	24.47	956.23

READY
LIST

```

10 REM BUTTON, BUTTON, WHO'S GOT THE BUTTON
20 REM T.H. 12/76
30 REM
40 DEF FNM(X)=(X=0)*7+(X<=7)*X+(X=8)*1
50 DEF FNN(X)=FNM(X+SGN(RND(1)-.5))
60 GOSUB 390
70 REM GAME STARTS HERE
80 B=INT(RND(1)*6)+2
90 L=8
100 REM
110 INPUT "WHO DO YOU GUESS HAS IT? ",G
120 IF G=0 THEN 330
130 IF G=B THEN 320
140 IF G=L THEN 260
150 IF G=FNM(B+1) OR G=FNM(B-1) THEN 240
160 IF G>0 AND G<8 THEN 200
170 PRINT "SILLY - THERE'S NO ONE HERE BY"
180 PRINT "THAT NUMBER - TRY AGAIN ..."
190 GOTO 110
200 PRINT G; " : 'WHO ME?'"
210 PRINT " : PRINT"
220 PRINT "WHOEVER HAS IT KEEPS IT"
230 GOTO 100
240 PRINT G; " : 'MY NEIGHBOR HAS IT'"
250 GOTO 270
260 PRINT G; " : 'I HAD IT LAST TIME'"
270 L=L-B
280 B=FNM(B)
290 PRINT " : PRINT"
300 PRINT "BUT WHOEVER HAS IT PASSES IT"
310 GOTO 100
320 PRINT G; " : 'RIGHT YOU ARE - LUCKY!'"
330 REM
340 PRINT "AGAIN? ", IS
350 INPUT " ", IS
360 IF IS(1,1)="N" THEN END
370 GOTO 70
380 STOP
390 REM INTRO
400 PRINT "1"
410 PRINT "7"
420 PRINT "2"
430 PRINT "3"
440 PRINT "4"
450 PRINT "5"
460 PRINT "6"
470 PRINT "7"
480 PRINT "8"
490 PRINT "9"
500 PRINT "0"
510 PRINT "1"
520 PRINT "2"
530 PRINT "3"
540 PRINT "4"
550 PRINT "5"
560 PRINT "6"
570 PRINT "7"
580 PRINT "8"
590 PRINT "9"
600 PRINT "0"
610 RETURN
620 PRINT "SITTING NEXT TO. GOOD LUCK !"
630 END
640 END
650 END
660 END
670 END
680 END
690 END
700 END
710 END
720 END
730 END
740 END
750 END
760 END
770 END
780 END
790 END
800 END
810 END
820 END
830 END
840 END
850 END
860 END
870 END
880 END
890 END
900 END
910 END
920 END
930 END
940 END
950 END
960 END
970 END
980 END
990 END
READY

```

RUN

1
7 2 *BUTTON*
 BUTTON
 WHO'S
6 YOU'RE 3 GOT
 IT THE
 BUTTON?
5 4

SOMEONE HAS THE BUTTON AND YOU
HAVE TO GUESS WHO HE CAN PASS
THE BUTTON (IF HE WANTS TO)
BUT ONLY TO SOMEONE HE'S
SITTING NEXT TO. GOOD LUCK !
WHO DO YOU GUESS HAS IT? 1
1: 'WHO ME?'

WHOEVER HAS IT KEEPS IT
WHO DO YOU GUESS HAS IT? 3
3: 'WHO ME?'

WHOEVER HAS IT KEEPS IT
WHO DO YOU GUESS HAS IT? 5
5: 'MY NEIGHBOR HAS IT'

BUT WHOEVER HAS IT PASSES IT
WHO DO YOU GUESS HAS IT? 5
5: 'RIGHT YOU ARE - LUCKY!'

AGAIN?