

Program Description I

Program Title

*** SHOOTING GALLERY ***

Contributor's Name Mr. Craig A. Pearce

Address 2529 S. Home Avenue

City Berwyn,

State Illinois

Zip Code 60402

Program Description, Equations, Variables Time to have some fun at the Penny Arcade. This program is intended to simulate a shooting gallery game in the following manner:

After initialization, the display blinks either score (both "0" at the start) flashing like many arcade machines do between games. Pressing "A" while the display pauses, will take a quarter from you (deducts .25 from register 0) and pauses 5 seconds to show you what shot you're on. Next, a random number greater than 1, and less than 9999999999 (with all possible combinations in between) is displayed for one second. This is your target field. The actual digits themselves are unimportant. They are only there to confuse you. What you are looking for is the decimal point. You want to key in its numeric position (see next page for explanation on position numbering) as soon as possible. If you manage to key in the correct value while the "target" is still pausing on the display, you will receive 5 times the position value in points. If you miss that pause, the display will count down from 3 to 1. During each of those pauses, you can still key in position value, and will receive the displayed value times the point position added to your score. If you miss the pause "window" and accidentally stop the program, key in the position you think is correct and press "C". You will receive the point position added to your score.

Should you fail to input a shot, or key in the wrong value, the machine takes a shot at you (scores a point), which is displayed as a negative value.

You win as long as the machine's score is less than 6 in which case, at the end of the game, the display will alternate flashing both scores. If you lose, only the machine's score is flashed. If you make over 200 points AND the machine's score is less than 6, you are entitled to a free game. The display is set to 9 places and the next pressing of "A" will not deduct 25¢ for the play.

You can recall the money "spent" by pressing "B" during a pause at the end of the game.

Operating Limits and Warnings If any data is keyed in between games, be sure to clear flag 3 before proceeding with a new game.

This program has been verified only with respect to the numerical example given in *Program Description II*. User accepts and uses this program material AT HIS OWN RISK, in reliance solely upon his own inspection of the program material and without reliance upon any representation or description concerning the program material.

NEITHER HP NOR THE CONTRIBUTOR MAKES ANY EXPRESS OR IMPLIED WARRANTY OF ANY KIND WITH REGARD TO THIS PROGRAM MATERIAL, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. NEITHER HP NOR THE CONTRIBUTOR SHALL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES IN CONNECTION WITH OR ARISING OUT OF THE FURNISHING, USE OR PERFORMANCE OF THIS PROGRAM MATERIAL.

Program Description II

Sketch(es) HOW TO DETERMINE THE POSITION OF THE DECIMAL POINT:

DISPLAY:	1 2 . 4 5 6 7 8 9 0 1
POSITION:	1 2 3 4 5 6 7 8 9 10 11

In the example above, the point is in position number 3.
(The decimal point can be in any position from 2 through 11).

Sample Problem(s) Enter program and initialize with a seed, (with $0 < \text{seed} < 1$)

.2510637948 (seed example) E 0.00 *

Start the game: A 12. **

8493.299700 *

The target show the point in position 5. Input: 5 25.00 *

Shown is your score, if you guessed correctly, for the
shot just made.

Shot 11 is now up. 11. **
9855597.000 *

A new target is displayed. Try the number 7 7 -1. *

Shown is the machines total score so far, if you guess
wrong.

Etc.

*--denotes a one second pause. **--denotes a 5 second pause.

Solution(s) *** DISPLAY EXPLAINATION ***

The first number displayed in each round is the shot number (from 12 to 1) which is the only number displayed with the flashing decimal point (to distinguish it from the others). During this pause, the display is set to 0 places. The next number displayed is the target field, with the display set to show all digits. When you key in your answer, either the machine's total score is displayed (if you guess wrong) with the display set to 0 places, and the number as a negative value, or your points made for that last shot are displayed as two place numbers. The 3, 2, 1 count down is with 0 palce setting.

At game termination, if you win, both scores will be displayed alternatngly. If the display is also set to a full 9 places (many zeroes showing) you are entitled to

a free game. A display set to 0 places shows no free game. If only a negative score is flashed at the end, it means the HP-67 has gotten 6 or more shots off, and you have lost.

1

SHOOTING GALLERY

2

25¢

RCL \$\$

SLOW SHOT

INITIAL

STEP	INSTRUCTIONS	INPUT DATA/UNITS	KEYS	OUTPUT DATA/UNITS
1	Input program (sides one and two)		<input type="text"/> <input type="text"/>	
2	Key in seed such that $0 < \text{seed} < 1$:	seed	E <input type="text"/>	0.00*
			<input type="text"/> <input type="text"/>	
3	To start a new game, press:		A <input type="text"/>	12.**
4	See displayed the shot number and then the target field.		<input type="text"/> <input type="text"/>	target *
5	As quickly as possible, key in the position value you think is correct, DURING A PAUSE.	#	<input type="text"/> <input type="text"/>	
	If guess was correct, see displayed the points gained during that round. Otherwise, see a negative number representing the points gained so far, by the machine.		<input type="text"/> <input type="text"/>	
6	Repeat steps 4 through 6 for all 12 shots.		<input type="text"/> <input type="text"/>	
7	At end of game, see winning score, or machines score as described on page 2, bottom.		<input type="text"/> <input type="text"/>	
8	NOTE: if inputting point position number causes program to halt, key in the value of of what you guess to be the correct position:	#	C <input type="text"/>	
9	(Optional)--At end of game, during a pause, to view the amount of "money spent" press:		B <input type="text"/>	
	67 will pause to display amount spent, then return to the score displays.		<input type="text"/> <input type="text"/>	
			<input type="text"/> <input type="text"/>	
	THIS PROGRAM IS MENT TO BE KEPT RUNNING AT ALL TIMES. A CONSTANT FLASHING DISPLAY AT THE END IS NORMAL.		<input type="text"/> <input type="text"/>	
	INPUT ALL GUESSES AND PRESS ANY LETTER KEYS DURING A ONE SECOND PAUSE MODE. THE ONLY EXCEPTION IS THE "A" KEY, WHICH CAN BE INPUT WHEN THE MACHINE IS STOPPED, AND THE "C" KEY WHICH IS MENT TO BE USED WHEN THE PROGRAM IS INADVERTANTLY HALTED.		<input type="text"/> <input type="text"/>	
10	For a new game, go to step 3 above.		<input type="text"/> <input type="text"/>	
			<input type="text"/> <input type="text"/>	
	DISPLAY READOUTS AND SCORING TECHNIQUES ARE DESCRIBED ON PAGES 1 AND 2.		<input type="text"/> <input type="text"/>	
*	Denotes a one second pause		<input type="text"/> <input type="text"/>	
**	Denotes a five second pause		<input type="text"/> <input type="text"/>	
			<input type="text"/> <input type="text"/>	
			<input type="text"/> <input type="text"/>	

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
001 *	f LBL A	31 25 11		*	f LBL 7	31 25 07	
	1	01			RCL 9	34 09	
	2	02			1	01	
	h ST I	35 33		060	+	61	
	g GSBf d	32 22 14			g X=Y	32 51	
	.	83			GTO 5	22 05	
	2	02		*	f LBL 3	31 25 03	
	5	05			0	00	
	h F? 2	35 71 02			STO A	33 11	
010	h F? 2	35 71 02			DSP 0	23 00	
	STO - 0	33 51 00			1	01	
*	f LBL 1	31 25 01			STO - 2	33 51 02	
	h RC I	35 34			RCL 2	34 02	
	DSP 0	23 00		070 *	f LBL 4	31 25 04	
	f -X-	31 84			h PAUSE	35 72	
	0	00			f DSZ	31 33	
	g GSBf e	32 22 15			GTO 1	22 01	
	1	01			6	06	
	0	00			CHS	42	
020	STO B	33 12			RCL 2	34 02	
	x	71			g X<Y	32 71	
	f INT	31 83			GTO 6	22 06	
	h X $\frac{1}{2}$ Y	35 52			1	01	
	g X=Y	32 51		080	9	09	
	1	01			9	09	
	h LST X	35 82			RCL 1	34 01	
	+	61			g X<Y	32 71	
	RCL B	34 12			GTO 6	22 06	
	\div	81			9	09	
030	g GSBf e	32 22 15			STO A	33 11	
	RCL B	34 12			h SF 2	35 51 02	
	x	71			h R $\frac{1}{2}$	35 53	
	1	01		*	f LBL 6	31 25 06	
	+	61		090	RCL A	34 11	
	f INT	31 83			h ST I	35 33	
	STO 9	33 09			DSP (i)	23 24	
	g 10 ^x	32 53			h R $\frac{1}{2}$	35 53	
	x	71			RCL 2	34 02	
	DSP 9	23 09		*	f LBL 0	31 25 00	
040	h PAUSE	35 72			h PAUSE	35 72	
	5	05			h X $\frac{1}{2}$ Y	35 52	
	h X $\frac{1}{2}$ Y	35 52			GTO 0	22 00	
*	f LBL 8	31 25 08		*	f LBL 5	31 25 05	
	DSP 2	23 02		100	h R $\frac{1}{2}$	35 53	
	h F? 3	35 71 03			x	71	
	GTO 7	22 07			STO + 1	33 61 01	
	4	04			GTO 4	22 04	
*	f LBL 2	31 25 02		*	g LBLf d	32 25 14	
	1	01			0	00	
050	-	51			STO 1	33 01	
	f X=0	31 51			STO 2	33 02	
	GTO 3	22 03			h RTN	35 22	
	h PAUSE	35 72		*	g LBLf e	32 25 15	
	h F? 3	35 71 03		110	RCL E	34 15	
	h F? 3	35 71 03			9	09	
	GTO 2	22 02			9	09	

REGISTERS

0	#	1 (SCORE) PLAYER'S	2 (SCORE) MACHINE'S	3	4	5	6	7	8	9 USED
S0		S1	S2	S3	S4	S5	S6	S7	S8	S9
A	TEMPORARY STO.		B	TEMP. STO.		C	D		E SEED	I USED

