

Program Description I

Program Title AMERICAN ROULETTE WHEEL

Contributor's Name MATTHEW BISHOP

Address 327 FORBES AVE.

City SAN RAFAEL

State CALIF

Zip Code 94901

Program Description, Equations, Variables

RED/BLACK : RED WINS IF 1,3,5,7,9,12,14,16,18,19,21,23,25,27,30,32,34,36

BLACK WINS IF 2,4,6,8,10,11,13,15,17,20,22,24,26,28,29,31,33,35

THE PAYOFF IS EVEN.

ODD/EVEN: EVEN WINS IF AN EVEN NUMBER APPEARS. OTHERWISE ODD WINS.

THE PAYOFF IS EVEN.

HIGH/LOW: IF A NUMBER LESS THAN OR EQUAL TO 18 IS SPUN, LOW WINS. OTHER-

WISE HIGH WINS. THE PAYOFF IS EVEN.

BET ON A 12: 1 WINS IF THE NUMBER SPUN IS 12 OR LESS.

2 WINS IF THE NUMBER SPUN IS BETWEEN 13 AND 24 INCLUSIVE.

3 WINS IF THE NUMBER SPUN IS 25 OR MORE.

THE PAYOFF IS TWO-TO-ONE.

BET ON A COLUMN: 1 WINS IF 1,4,7,10,13,16,19,22,25,28,31,34 APPEARS.

2 WINS IF 2,5,8,11,14,17,20,23,26,29,32,35 APPEARS.

3 WINS IF 3,6,9,12,15,18,21,24,27,30,33,36 APPEARS.

THE PAYOFF IS TWO-TO-ONE.

SINGLE NUMBER BET: IF YOUR NUMBER APPEARS, THE PAYOFF IS 35-TO-1.

****WARNING****IF 0 OR 00 APPEARS ALL BETS, SAVE THE SINGLE NUMBER BET,

****WARNING****ARE IMMEDIATELY LOST.

Operating Limits and Warnings

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.

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Program Description I

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Program Description, Equations, Variables

BETTING TABLE :

00	3	6	9	12	15	18	21	24	27	30	33	36	2401
0	3	5	8	11	14	17	20	23	26	29	32	35	2401
1	4	7	10	13	16	19	22	25	28	31	34	37	2401
1 ST DOZEN				2 ND DOZEN				3 RD DOZEN					
1-18				EVEN				ODD				19-36	

KEY :  BLACK
 RED (EXCEPT FOR 0, 00, AND NONNUMBERS -- THESE ARE WHITE)

Operating Limits and Warnings THE INPUT DATA IS NOT CHECKED FOR VALIDITY, WITH ONE EXCEPTION : NEGATIVE BETS ARE READ AS 0.

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Sketch(es)

Sample Problem(s) USE 0.5284163 AS THE SEED.

BET AS FOLLOWS:

RED--\$1, BLACK--\$2, ODD--\$3, EVEN--\$4, HIGH--\$5, LOW--\$6, 12--THIRD
GROUP(3)--\$7, COLUMN--COLUMN 2--\$*, NUMBER--NUMBER 25--\$9.

SPIN THE WHEEL.

BALL STOPS AT 31.

YOU BET A TOTAL OF \$45.

YOU WON A TOTAL OF \$41 ON THIS SPIN.

YOUR NET WINNING ON THIS SPIN IS -\$4.

YOUR TOTAL WINNINGS SO FAR ARE -\$4.

Solution(s) f P s 0 STO 1 .5284163 STO 0 f P S ----- 1.

A (enter one per pause)

1,2,3,4,5,6,3,7,2,8,25,9-----31 (BALL STOPS HERE)

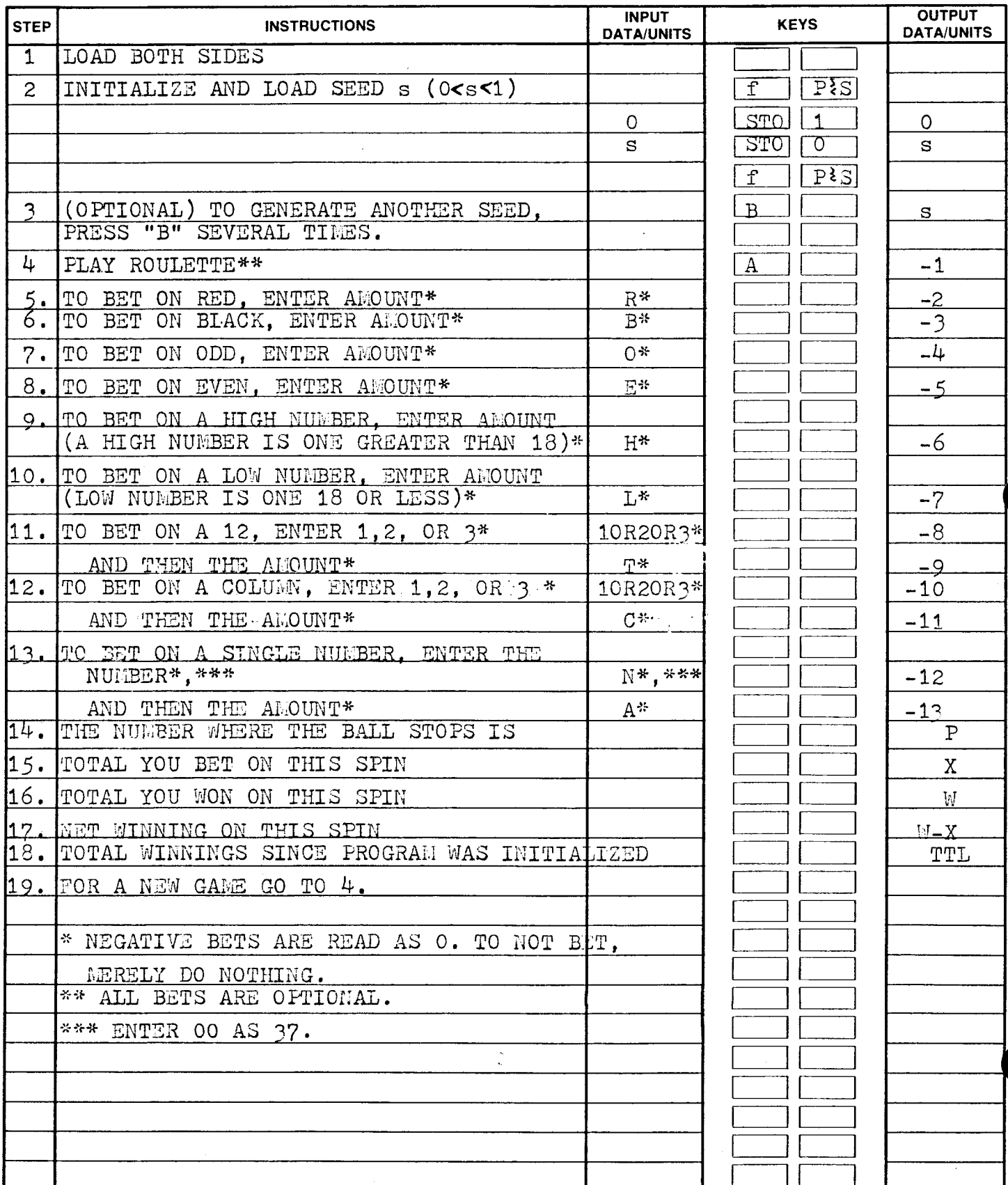
45 (AMOUNT BET)

41 (AMOUNT WON)

-4 (NET WINNING)

-4 (TOTAL WON SO FAR)

Reference(s) SPENCER, DONALD: GAME PLAYING WITH COMPUTERS; HAYDEN BOOK CO.,
INC., c. 1975, SECOND REVISED EDITION, pp. 160-163, 274-76



STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
001	F LBL A	31 25 11	initialize		+	61	
	F DSP 0	23 00			g x.gt.y	32 81	
	F CLREG	31 43			GTO 1	22 01	
	F GSB E	31 22 15	store all bets	060	f LBL 2	31 25 02	
	STO 1	33 01			h Rdn	35 53	
	f GSB E	31 22 15			2	02	
	STO 2	33 02			/	81	
	f GSB E	31 22 15			g FRAC	32 83	
	STO 3	33 03			f x=0	31 61	
010	F GSB E	31 22 15			h SF 2	35 51 02	
	STO 4	33 04			f LBL 3	31 25 03	calculate appro-
	f GSB E	31 22 15			RCL 1	34 01	prate winnings
	STO 5	33 05			h F? 2	35 71 02	
	f GSB E	31 22 15		070	RCL 2	34 02	
	STO 6	33 06			2	02	
	f GSB E	31 22 15			f GSB 4	31 22 04	
	STO C	33 13			RCL E	34 15	is P even or odd?
	f GSB E	31 22 15			2	02	
	STO 7	33 07			/	81	
020	F GSB E	31 22 15			g FRAC	32 83	
	STO A	33 11			f x=0	31 51	
	f GSB E	31 22 15			h SF 2	35 51 02	
	STO 8	33 08			RCL 3	34 03	calculate appro-
	f GSB E	31 22 15		080	h F? 2	35 71 02	prate winnings
	STO B	33 12			RCL 4	34 04	
	f GSB E	31 22 15			2	02	
	STO 9	33 09			f GSB 4	31 22 04	
	9	09	initialize RI,		1	01	is P high or low
	h STI	35 33	stack		8	08	
030	0	00			RCL E	34 15	
	F LBL 0	31 25 00			g xley	32 71	
	RCL (i)	34 24	compute amount		h SF 2	35 51 02	
	+	61	bet		RCL 5	34 05	calculate appro-
	f DSZ	31 33		090	h F? 2	35 71 02	prate winnings
	GTO 0	22 00			RCL 6	34 06	
	STO D	33 14			2	02	
	f GSB B	31 22 12	ge-nerate random		f GSB 4	31 22 04	
	STO E	33 15	number P and dis-		1	01	which dozen is P
	f -x-	31 84	play it		2	02	in (which 12)?
040	f x=0	31 51	if x=0, skip		RCL E	34 15	
	GTO 6	22 06			g xley	32 71	
	3	03	if x=37, skip		GTO 5	22 05	
	7	07			h SF 2	35 51 02	
	g x=y	32 51		100	2	02	
	GTO 6	22 06			5	05	
	RCL E	34 15	is P red or black		g xgty	32 81	
	1	01			GTO 5	22 05	
	1	01			h CF 2	35 61 02	
	g xgty	32 81			3	03	
050	GTO 1	22 01			RCL C	34 13	
	8	08			g x=v	32 51	
	+	61			h SF 2	35 51 02	
	g xgty	32 81			f LBL 7	31 25 07	calculate appro-
	GTO 2	22 02		110	0	00	prate winnings
	1	01			h F? 2	35 71 02	
	0	00			RCL 7	34 07	

REGISTERS

USED***	1*****	2*****	3*****	4*****	5*****	6*****	7*****	8*****	9*****
SOUSED***	S*****	S*****	S*****	S*****	S*****	S*****	S*****	S*****	S*****
AUSED***	A*****	B*****	C*****	D*****	E*****	F*****	G*****	H*****	I*****

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
	3	03			g FRAC	32 83	is P black or red?
	f GSB 4	31 22 04		170	f x=0	31 51	
	RCL E	34 15	which column is P in?		h SF 2	35 51 02	
	3	03			GTO 3	22 03	
	/	81			f LBL 4	31 25 04	multiply and add to winnings for this spin
	g FRAC	32 83			x	71	
	3	03			STO + 0	33 61 00	
120	x	35 22			h RTN	35 22	
	f RND	31 24			f LBL 5	31 25 05	which dozen (12) is P in?
	1	01			1	01	
	g x=y	32 51			h F? 2	35 71 02	
	GTO 8	22 08		180	2	02	
	h SF 2	35 51 02			RCL C	34 13	
	1	01			g x=y	32 51	
	+	61			h SF 2	35 51 02	
	g x=y	32 51			GTO 7	22 07	
	GTO 8	22 08			f LBL 8	31 25 08	which column is P in?
130	h CF 2	35 61 02			RCL A	34 11	
	RCL A	34 11			g x=v	32 51	
	3	03			h SF 2	35 51 02	
	g x=y	32 51			GTO 9	22 09	
	h SF 2	35 51 02		190	f LBL B	31 25 12	random number generator
	f LBL 9	31 25 09	compute appropriate amount		f P S	31 42	
	0	00			RCL 0	34 00	
	h F? 2	35 71 02			9	09	
	RCL 8	34 08			9	09	
	3	03			7	07	
140	f GSB 4	31 22 04			x	71	
	f LBL 6	31 25 06	is P the single number bet on?		g FRAC	32 83	
	RCL E	34 15			STO 0	33 00	
	RCL B	34 12			f P S	31 42	
	g x=y	32 51		200	3	03	
	h SF 2	35 51 02			7	07	
	0	00	compute appropriate amount		x	71	
	h F? 2	35 71 02			f RND	31 24	
	RCL 9	34 09			h RTN	35 22	
	3	03			f LBL E	31 25 15	display control for data (bets) entry
150	6	06			f DSZ	31 33	
	f GSB 4	31 22 04	display amount bet on this spin		h RCL	35 34	
	DSP 2	23 02			h PSE	35 72	
	RCL D	34 14			f x lt 0	31 71	
	h PSE	35 72		210	CLX	44	
	RCL 0	34 00	display amount won on this spin		h RTN	35 22	
	h PSE	35 73					
	h x ex y	35 52					
	-	51					
	h PSE	35 72	display difference				
160	f P S	31 42					
	STO + 1	33 61 01	add difference to previous winning				
	RCL 1	34 01	display sum				
	f P S	31 42					
	h RTN	35 22		220			
	f LBL 1	31 25 01					
	h Rdn	35 53					
	2	02					
	/	81					

LABELS				
A	B	C	D	E
GO	RNG			DISP.
a	b	c	d	e
0 USED***	1*****	2*****	3*****	4*****
5 USED***	6*****	7*****	8*****	9*****

FLAGS	SET STATUS		
	FLAGS	TRIG	DISP
0	ON OFF		
1	☐ ☐	DEG ☐	FIX ☐
2	☐ ☐	GRAD ☐	SCI ☐
3	☐ ☒	RAD ☐	ENG ☐
			n 0, 2

Change steps,	154 hPSE 35 72	to R/S 84	or f-x- 31 84
	156 hPSE 35 72	to R/S 84	or f-x- 31 84
	159 hPSE 35 72	to R/S 84	or f-x- 31 84
	208 hPSE 35 72	to R/S 84	or f-x- 31 84