

Program Description I

Program Title Pinochle

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Program Description, Equations, Variables This version of Pinochle pits you against the calculator in a two-handed game. The cards are dealt to each player (12 to each). Two euchre decks are used (Aces, Kings, Queens, Jacks, Tens, Nines) so 48 cards are in the deck. After the cards are dealt each hand is melded. Melding is getting points for certain card combinations in each hand. The following is the combinations and the points for each.

A, K, Q, J, 10 of trump	150 pts.	After each hand is melded play begins. Either player leads a card and the other must follow suite or trump. If you can't follow suite you must lay trump if you have trump. If not, you may play anything. Each trick (one card played by each) is worth points also. Ace is worth 10 pts., King=8, Queen=6, Jack=4, 10=2. The rank of cards differs slightly from regular pinochle. In regular pinochle the order is A, 10, K, Q, J, 9; in this version it is A, K, Q, J, 10, 9. This next bit of information is for the benefit of anyone who hasn't played a game of this type before. Trump is the suite of cards (♠, ♡, ♣, ♠) that is turned up after the cards are dealt. Trump can take a card of any other suite. (continued)
4 A's	100 pts.	
4 K's	80 pts.	
4 Q's	60 pts.	
4 J's	40 pts.	
Q♠, J♦ (pinochle)	40 pts.	
K, Q of trump (royal marriage)	40 pts.	
K, Q of same suite (marriage)	20 pts.	

Operating Limits and Warnings The calculator deletes its cards after they have been played. It does not do this for the player's cards so you can play cards you don't really have or cheat in other ways. It spoils the game if you cheat though. If all cards have been played (12 from each) the hand is over. If you continue, the calculator will play a 5.0 and you will know all cards have been played.

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, Equations, Variables For example, if the calculator leads an Ace of ♠'s, and you play a 9 of ♦'s, the latter would win the trick if ♦'s were trump. However, if you have a ♠ you must lay it, or follow suite. Cards are entered as followed; Ace (A) is 14, King (K) is 13, Queen (Q) is 12, Jack (J) is 11, 10 is 10, 9 is 9. Suites are ♠'s, .1; ♥'s, .2; ♦'s, .3; ♣'s, .4. In other words an Ace of ♠'s is entered 14.1, a 10 of ♥'s is 10.4, etc. The game goes to 1000 pts, but you might not want to go that high. Since it takes nearly 3 minutes to deal and 5 minutes to meld the calculator's hand this could be very time consuming. After all cards are played a new hand is dealt. Be sure not to press [C] (new game) or the score will be lost. Another word about melding. There are no double pinaches, royal marriages, or marriages. Two Q♥ and two J♦ don't count for two pinaches, only one or 40 pts. The score is shown in the form "PLAYER.CALCULATOR. This means if the player has 136 pts, and the calc. has 158, the score is displayed 136.0158. I'm 17 years old and originally wrote a similar program for an HP-55. It was a pain keying in all the steps over and over. My HP-67 is saving my fingers.

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Program Description II

Sketch(es)

clubs = ♣ = .1	Ace = A = 14	A♠ = 14.2
spades = ♠ = .2	King = K = 13	K♠ = 13.3
diamonds = ♦ = .3	Queen = Q = 12	Q♠ = 12.1
hearts = ♥ = .4	Jack = J = 11	J♠ = 11.4
	Ten = 10 = 10	10♠ = 10.3
	Nine = 9 = 9	9♠ = 9.2

Sample Problem(s) Load PINOCHLE I

initialize (NEW GAME)	C	
store seed .8	STO 9	.8
DEAL cards	A	2.0 (spades is trump)
bot at your CARDS	B	12.2 9.4 11.4 12.2
		11.4 14.1 14.4 10.3
		10.4 14.2 14.1 14.4

Load PINOCHLE II

meld calculator's hand	A	0.0
meld your hand		
(4 A's @ 100 pts.)	100 B	100.0020 (score is 100 to 20)
Load either PINOCHLE III or IV (PINOCHLE III in this case)		

	(A♥)	(depress)	(calc's card)	(number of pts. won)
Pick card you wish to lead	14.4	A	10.4	12.0

	(A♥)		(calc's card)	(number of pts. won)
Lead again	14.4	A	12.4	16.0

(14.4, card previously laid)

Lead again	14.1	A	9.1	10.0
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(14.4, 14.4)

Lead again	12.2	A	13.2	1.400000000-03
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(14.4, 14.4, 14.1)

(pts. won; when in SCI notation the calc. won)

Load PINOCHLE IV

Determine calc's lead	A	14.3	0.0
		(calc's card)	(cues for player's card)

Play your card	10.3	C	1.200000000-03
(14.4, 14.4, 14.1, 12.2)	(your card)		pts. won

CONTINUED

Program Description II

[illegible]

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PINOCHLE I

DEAL CARDS NEW GAME

1 4h 2

[illegible]

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
001	* F LBL A	31 25 11	store the first string of cards in R _E ; sets the display for rounding, and stores the address of the deck register (all cards are stored)		F X=0	31 51	A register containing 4 cards is randomly picked and a card is randomly picked from the number. If the register = 0 (all cards in that memory have been used) another one is picked
	.	83			GTO 1	22 01	
	3	03			3 GSBF e	32 22 15	
	1	01		060	4	04	
	3	03			X	71	
	1	01			F INT	31 83	
	3	03			Z	02	
	Z	02			X	71	
	3	03			9 10 ^x	32 53	
010	2	02			STO 7	33 07	
	STO E	33 15	store the deck of cards in R ₅₀ - R ₅₉ and increment register I to the next register used in storing card values. (all cards are stored before dealing because in pinochle a card may be repeated once)		X	71	card picked is deleted from its register so it can not be repeated
	DSP 8	23 08			9 FRAC	32 43	
	1	01			EEX	43	
	0	00		070	Z	02	
	h ST I	35 33			X	71	
	* F LBL 0	31 25 00			F INT	31 83	
	9	09			F X=0	31 51	
	.	83			GTO 1	22 01	
	9	09			STO C	33 13	
020	h X	35 62			RCL 7	34 07	
	F RND	31 24	test to see if all cards are stored, if not, another set is stored		÷	81	card is ÷'d by a power of ten so it will not overlap on a previously stored number (4 are store in each memory). If 4 cards are stored in the memory the next register is used.
	RCL E	34 15			EEX	43	
	+	61			Z	02	
	STO E	33 15		080	÷	81	
	STO (i)	33 24			STO - (i)	33 51 24	
	F ISZ	31 34			RCL D	34 14	
	9	09			h ST I	35 33	
	9	09			Z	02	
	h X	35 62			STO + 0	33 61 00	
030	F ISZ	31 24			RCL C	34 13	
	2	02	sets register to start dealing, clears R ₄ - R ₆ (used to store player's cards)		RCL 0	34 00	after all the cards are dealt - trump is found
	X	71			9 10 ^x	32 53	
	+	61			÷	81	
	STO (i)	33 24		090	STO + (i)	33 61 24	
	F ISZ	31 34			RCL 0	34 00	
	h RCI	35 34			8	08	
	Z	02			9 X ≠ Y	32 61	
	Z	02			GTO 1	22 01	
	9 X ≠ Y	32 61			0	00	
040	GTO 0	22 00			STO 0	33 00	
	6	06	after all the cards are dealt - trump is found		RCL D	34 14	after all the cards are dealt - trump is found
	STO D	33 14			1	01	
	0	00			-	51	
	STO 4	33 04		100	STO D	33 14	
	STO 5	33 05			F X ≠ 0	31 61	
	STO 6	33 06			GTO 1	22 01	
	* F LBL 1	31 25 01			9 GSBF e	32 22 15	
	9 GSBF e	32 22 15			4	04	
	1	01			X	71	
050	2	02			1	01	
	X	71	after all the cards are dealt - trump is found		+	61	after all the cards are dealt - trump is found
	1	01			F INT	31 83	
	0	00			STO A	33 11	
	+	61		110	DSP 1	23 01	
	h ST I	35 33			R/S	84	
	RCL (i)	34 24			* 9 LBL f e	32 25 15	

REGISTERS

0 card placing	1 calculator	2 calculator's memory	3 cards	4 player's cards stored per memory	5 cards, 4 stored per memory	6 card's position	7 score	8 random #
S ₀ registers	S ₁ - B	S ₂ - B	S ₃	S ₄	S ₅	S ₆	S ₇	S ₈
are used at the beginning to score all possible cards								
A trump: original cards	B original cards	C card retrieved from deck	D used	E used in storing the deck of cards	I used			

Program Listing II

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STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
	h π	35 73	finds a random number using the formula $\text{new \#} = (\text{old \#} + \pi)^2$ FRAC				
	RCL 9	34 09		170			
	+	61					
	9 X ²	32 54					
	9 FRAC	32 83					
	STO 9	33 09					
	h RTN	35 22					
120	* F LBL C	31 25 13	all registers cleared for a new game				
	F CL REG	31 43					
	F PRS	31 42					
	F CL REG	31 43					
	R/S	84		180			
	* F LBL B	31 25 12	initializes card interpreting routine				
	6	06					
	h STI	35 33					
	0	00					
	STO E	33 15					
130	* F LBL 3	31 25 03	the next card is retrieved, interpreted, and displayed. Card value is 5 less than its displayed value, (14.1 is 3 digits so 5 is subtracted to make it a two digit #) so 4 two digit #'s are stored				
	RCL (i)	34 24					
	RCL E	34 15		190			
	9 10 ^x	32 53					
	X	71					
	9 FRAC	32 83					
	EEX	43					
	Z	02					
	X	71					
	F INT	31 83					
140	1	01	register counter is incremented for next card, if all cards in that register have been displayed the next memory is shown. If all cards have been displayed the routine halts.	200			
	0	00					
	÷	81					
	5	05					
	+	61					
	F -X-	31 84					
	RCL E	34 15					
	Z	02					
	+	61					
	STO E	33 15					
150	8	08					
	9 X \neq Y	32 61					
	GTO 3	22 03					
	h RCL	35 34					
	1	01		210			
	-	51					
	h STI	35 33					
	3	03					
	9 X=Y	32 51					
	R/S	84					
160	0	00					
	STO E	33 15					
	GTO 3	22 03					
				220			

LABELS					FLAGS	SET STATUS				
A	DEAL	B	C	D	E	0	FLAGS		TRIG	DISP
a		b	c	d	e	random#	1	ON OFF		
0	stores deck	1	finds a card	2	3	gets card	4	0 <input type="checkbox"/> <input checked="" type="checkbox"/>	DEG <input checked="" type="checkbox"/>	FIX <input checked="" type="checkbox"/>
	of cards		9 stores it			out of string	2	1 <input type="checkbox"/> <input checked="" type="checkbox"/>	GRAD <input type="checkbox"/>	SCI <input type="checkbox"/>
5		6	7	8	9		3	2 <input type="checkbox"/> <input checked="" type="checkbox"/>	RAD <input type="checkbox"/>	ENG <input type="checkbox"/>
								3 <input type="checkbox"/> <input checked="" type="checkbox"/>		n <u>1</u>

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
001	* F LBL A	31 25 11	initializes test register for Ace through 10 of trump test		STO E	33 15	sends A-10 of trump through test routine. If any tests are false the program returns for the 4 of a kind test. If A-10 of trump is present 150 pts. are scored.
	2	02			F GSB 8	31 22 08	
	STO B	33 12			RCL 9	34 09	
	F GSB 9	31 22 09		060	F GSB 9	31 22 09	
	9 GSBFC	32 22 13			+	61	
	EEX	43			F X=0	31 51	
	2	02			h RTN	35 22	
	RCL A	34 11			9 GSBFC	32 22 13	
	+	61			RCL E	34 15	
010	STO E	33 15			1	01	
	F GSB 4	31 22 04	initializes test register for 4 or more A's, K's, Q's, J's test		0	00	test to see if any of the calculator's cards equals the card in the test register. If so it is verified, if not the next card is retrieved
	1	01			÷	81	
	0	00			F INT	31 83	
	STO E	33 15		070	5	05	
	9 GSBFC	32 22 13			9 X≠Y	32 61	
	1	01			GTO 4	22 04	
	STO B	33 12			1	01	
	F GSB 5	31 22 05			5	05	
	2	02			0	00	
020	STO B	33 12			h RV	35 53	
	8	08	initializes test register for K and Q of same suite (marriage)		GTO Fa	22 31 11	test for four of a kind is performed. Runs A-5 in test register and checks to see if 4 or more of that card is present. If so, the appropriate score is given.
	0	00			* F LBL 8	31 25 08	
	STO E	33 15			RCL (i)	34 24	
	9 GSBFC	32 22 13		080	RCL 0	34 00	
	F GSB 6	31 22 06			9 10 ^x	32 53	
	9 GSBFC	32 22 13			X	71	
	7	07			9 FRAG	32 83	
	2	02			RCL B	34 12	
	STO E	33 15			9 10 ^x	32 53	
030	6	06			X	71	
	3	03	sets values in two test registers for a pinochle (Q♠, J♦)		F INT	31 83	test for four of a kind is performed. Runs A-5 in test register and checks to see if 4 or more of that card is present. If so, the appropriate score is given.
	STO D	33 14			RCL E	34 15	
	4	04			9 X=Y	32 51	
	0	00		090	STO + 9	33 61 09	
	STO C	33 13			2	02	
	F GSB 7	31 22 07			STO + 0	33 61 00	
	F GSB 9	31 22 09			RCL 0	34 00	
	9 GSBFC	32 22 13			8	08	
	8	08			9 X≠Y	32 61	
040	0	00			GTO 8	22 08	
	RCL A	34 11	sets test register for a royal marriage (K and Q of trump)		0	00	test for four of a kind is performed. Runs A-5 in test register and checks to see if 4 or more of that card is present. If so, the appropriate score is given.
	+	61			STO 0	33 00	
	STO E	33 15			F DSZ	31 33	
	1	01		100	GTO 8	22 08	
	0	00			h RTN	35 22	
	-	51			* F LBL 5	31 25 05	
	STO D	33 14			RCL E	34 15	
	2	02			1	01	
	0	00			-	51	
050	STO C	33 13			STO E	33 15	
	GTO 7	22 07			5	05	
	* F LBL 4	31 25 04			9 X=Y	32 51	
	RCL E	34 15			h RTN	35 22	
	1	01		110	F GSB 8	31 22 08	
	0	00			RCL 9	34 09	
	-	51			RCL E	34 15	

REGISTERS

0	1	2	3	4	5	6	7	8	9
S0	S1	S2	S3	S4	S5	S6	S7	S8	S9
A	B	C	D	E	I				

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
	÷	81			GTO 6	22 06	
	4	04		170	* F LBL 7	31 25 07	
	RCL E	34 15			F GSB 8	31 22 08	test for pinacle
	4	04			RCL 9	34 09	(Q, J, 10) and
	-	51			F X=0	31 51	royal marriage
	2	02			h RTN	35 22	(K, Q of trump)
	0	00			RCL D	34 14	If the Q♠
120	X	71			STO E	33 15	is present, the
	h RV	35 53			F GSB 9	31 22 09	J♦ is looked
	9 XSY	32 71			9 GSBf c	32 22 13	for. If both
	9 GSBf a	32 22 11			F GSB 8	31 22 08	are present a
	F GSB 9	31 22 09		180	RCL 9	34 09	score is prod-
	9 GSBf c	32 22 13			F X=0	31 51	uced. Same
	GTO 5	22 05			h RTN	35 22	goes for K&Q
	* 9 LBL f a	32 25 11			RCL C	34 13	of trump
	h RA	35 54			h RV	35 53	
	EEX	43	score is added		9 GSBf a	32 22 11	
	4	04	to the calcu-		* F LBL 9	31 25 09	
130	÷	81	lator's points		0	00	clears counting
	STO +8	33 61 08			STO 0	33 00	registers
	h RTN	35 22			STO 9	33 09	
	* F LBL 6	31 25 06		190	h RTN	35 22	
	RCL E	34 15			* 9 LBL f c	32 25 13	initializes I
	1	01	test for a mar-		3	03	register for
	+	61	riage. If a king		h ST I	35 33	first string of
	STO E	33 15	is found by the		h RTN	35 22	cards.
	8	08	test routine, the		* F LBL B	31 25 12	player meld.
140	5	05	queen is sought		STO +8	33 61 08	Adds the number
	9 X=Y	32 51	after. If she is		DSP 4	23 04	of points the
	h RTN	35 22	found the calcul-		RCL 8	34 08	player scores
	F GSB 8	31 22 08	ator scores. If		F -X-	31 84	and displays th
	9 GSBf c	32 22 13	no king is found		DSP 1	23 01	points of the
	RCL 9	34 09	the next suite	200	R/S	84	player and calc.
	F X=0	31 51	is tried.				
	GTO 6	22 06					
	RCL E	34 15					
	1	01					
150	0	00					
	-	51					
	STO E	33 15					
	F GSB 9	31 22 09					
	F GSB 8	31 22 08					
	RCL E	34 15					
	1	01					
	0	00					
	+	61					
	STO E	33 15					
160	9 GSBf c	32 22 13	queen search	210			
	RCL 9	34 09	portion of pre-				
	F X=0	31 51	ceding routine.				
	GTO 6	22 06	If queen is found				
	2	02	the calculator				
	0	00	scores, if not the				
	h RV	35 53	next suite for				
	9 GSBf a	32 22 11	the king is tried.				
	F GSB 9	31 22 09					

LABELS					FLAGS	SET STATUS		
A Calc. Meld	B Player Meld	C	D	E	0	FLAGS	TRIG	DISP
a points added to calc.	b	c initialize register	d	e	1	ON OFF		
0	1	2	3	4 test for A-10 of trump	2	0 <input type="checkbox"/> <input checked="" type="checkbox"/>	DEG <input checked="" type="checkbox"/>	FIX <input checked="" type="checkbox"/>
5 test for 4 of a kind	6 test for marriage	7 pinacle and royal marriage	8 test routine	9 clear counting register	3	1 <input type="checkbox"/> <input checked="" type="checkbox"/>	GRAD <input type="checkbox"/>	SCI <input type="checkbox"/>
						2 <input type="checkbox"/> <input checked="" type="checkbox"/>	RAD <input type="checkbox"/>	ENG <input type="checkbox"/>
						3 <input type="checkbox"/> <input checked="" type="checkbox"/>		n <u>1</u>

[illegible]

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
001	* F LBL A	31 25 11	secondary registers are initialized & flags are cleared. Player's card is interpreted and a routine is worked to find if the calculator can follow suite. If it can execution transfers to LBL e.		O	00	the calculator can follow suite and then checks to see if it can beat the player's card. If it can it does so but if it can't it plays its lowest card of that suite.
	F P&S	31 42			X	71	
	RCL A	34 11			h X>Y	35 52	
	F CL REG	31 43		060	g X>Y	32 81	
	STO A	33 11			GTO O	22 00	
	EEX	43			h RV	35 53	
	2	02			h RV	35 53	
	STO 8	33 08			I	01	
	F P&S	31 42			O	00	
010	h RV	35 53			X	71	
	h RV	35 53	if the calculator can not follow suite, it checks to see if the player's card was trump. If it was trump the calculator can not possibly win and plays its lowest card.		* F LBL I	31 25 01	this label is used when the calculator loses a trick. The card played by the calculator is deleted from its hand and the proper number of points is awarded to the player.
	h CF 1	35 61 01			STOE	33 15	
	h CF 3	35 61 03			I	01	
	S	05		070	O	00	
	-	51			÷	81	
	F INT	31 83			S	05	
	STO B	33 12			+	61	
	h LST X	35 81			F -X-	31 84	
	g FRAC	32 83			g GSBF a	32 22 11	
020	STOC	33 13			h SF O	35 51 00	
	g GSBF a	32 22 11	If the player's card wasn't trump the calculator runs through a routine to find its lowest trump. If it has no trump it loses and plays its lowest card.		F GSB 9	31 22 09	this routine is the main body of the program. If no flags are set it will find the highest and lowest cards of the suite in R _e . If flag 0 is set the card in R _e is deleted from the calculator's hand. If flag 1 is set it will find the location of the card in R _e .
	F GSB 9	31 22 09			h CF O	35 61 00	
	h F? 2	35 71 02			RCL E	34 15	
	GTO f e	22 31 15		080	I	01	
	* F LBL S	31 25 05			O	00	
	EEX	43			÷	81	
	2	02			F INT	31 83	
	STOE	33 15			RCL B	34 12	
	h SF 1	35 51 01			+	61	
030	g GSBF a	32 22 11			8	08	
	RCL C	34 13			-	51	
	RCL A	34 11			2	02	
	I	01			X	71	
	O	00		090	STO+8	33 61 08	
	÷	81			R/S	84	
	g X=Y	32 51			* F LBL 9	31 25 09	
	GTO 4	22 04			RCL(I)	34 24	
	h CF 1	35 61 01			RCL O	34 00	
	STOC	33 13			g IOX	32 53	
040	F GSB 9	31 22 09			X	71	
	h CF 2	35 61 02			g FRAC	32 83	
	F X=O	31 51			EEX	43	
	GTO S	22 05			2	02	
	h RV	35 53		100	X	71	
	I	01			F INT	31 83	
	O	00			h F? O	35 71 00	
	X	71			GTO 3	22 03	
	GTO O	22 00			h F? 1	35 71 01	
	* g LBL f e	32 25 15			h RTN	35 22	
050	I	01			I	01	
	O	00			O	00	
	X	71			÷	81	
	RCL B	34 12			g FRAC	32 83	
	RCL C	34 13		110	RCL C	34 13	
	+	61			g X=Y	32 51	
	I	01			g GSBF c	32 22 13	

REGISTERS

0 card counter	1 calculator's	2 cards	3 player's	4 cards	5	6 cards	7	8 score	9
S0	S1	S2	S3	S4	S5	S6	S7 lowest card (suite)	S8 lowest card (suite)	S9
A trump	B value of player's card (A, K, Q, J, 10, 9)	C suite of player's card (♠, ♡, ♢, ♣)	D	E test register	I used				

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
* 120	F LBL 2	31 25 02	this is the second half of LBL 8. It advances the card counter and sets flag 2 if the calculator can follow suite. It has the lowest card of the suite in R _c in the Y-register and the highest in the X-register.	170	F X≠0	31 61	this is the second half of LBL 4. It advances the card counter and plays the lowest card.
	2	02			GTO 4	22 04	
	STO+0	33 61 00			F DSZ	31 33	
	RCL 0	34 00			GTO 4	22 04	
	8	08			RCL E	34 15	
	9 X≠Y	32 61			GTO 1	22 01	clears card counter register and resets the I register.
	GTO 9	22 09		* 180	9 LBLF 9	32 25 11	
	0	00			0	00	
	STO 0	33 00			STO 0	33 00	
	h F?3	35 71 03			STO 7	33 07	
	h RTN	35 22			STO 9	33 09	
	F DSZ	31 33			3	03	
	GTO 9	22 09			h ST I	35 33	
	F P?S	31 42			h RTN	35 22	
	RCL 8	34 08			* F LBL 0	31 25 00	when the calculator can win a trick program execution transfers to this routine. The card played by the calculator is deleted from its hand and displayed. Points are awarded to the calculator for the value of the cards in the trick.
	RCL 7	34 07		STO E	33 15		
	F P?S	31 42		1	01		
130	F X≠0	31 61		0	00		
	h SF 2	35 51 02		+	81		
	h RTN	35 22		5	05		
	* 9 LBLF c	32 25 13		+	61		
	F P?S	31 42	190	F -X-	31 84		
	RCL 7	34 07		9 GSBF a	32 22 11		
	h LSTX	35 82		h SF 0	35 51 00		
	9 X>Y	32 91		F GSB 9	31 22 09		
	STO 7	33 07		h CF 0	35 61 00		
	RCL 8	34 08		RCL E	34 15		
140	h X≠Y	35 52		1	61		
	9 X≠Y	32 71		0	00		
	STO 8	33 08		÷	81		
	F P?S	31 42		F INT	31 83		
	h RTN	35 22		200	RCL B	34 12	
	* F LBL 3	31 25 03	when the calculator plays a card it must be deleted from its hand or it could be played again. This routine in conjunction with LBL 9, LBL 2 isolates the card and deletes it.		+	61	
	RCL E	34 15			8	08	
	9 X≠Y	32 61			-	51	
	GTO 2	22 02			2	02	
	EEX	43			X	71	
150	2	02			EEX	43	
	÷	81			4	04	
	RCL 0	34 00			÷	81	
	9 10 ^x	32 53			STO+8	33 61 08	
	÷	81			210	R/S	84
	STO-(1)	33 51 24			* F LBL E	31 25 15	the score is displayed in the format PLAYER.CALC.
	h RTN	35 22			RCL 8	34 08	
	* F LBL 4	31 25 04			DSP 4	23 04	
	h SF 3	35 51 03			F -X-	31 84	
	F GSB 9	31 22 09			DSP 1	23 01	
160	RCL E	34 15	when there is no way the calculator can win it plays its lowest non-trump card. This routine finds that card.		R/S	84	
	h X≠Y	35 52					
	F X=0	31 51					
	GTO 6	22 06					
	9 X≠Y	32 71					
	STO E	33 15					
	* F LBL 6	31 25 06					
	F GSB 2	31 22 02					
	RCL 0	34 00					

LABELS

FLAGS

SET STATUS

A PLAYER LEAD	B	C	D	E SCORE	0 delete card	FLAGS	TRIG	DISP
a initializes registers	b	c places value of suite	d	e test for high or low play	1 lowest card	ON OFF	DEG <input checked="" type="checkbox"/>	FIX <input checked="" type="checkbox"/>
q calc. wins the trick	1 calc. loses trick	2 card counter advances	3 deletes unk. card	4 finds the lowest card	2 can follow suite?	0 <input type="checkbox"/> <input checked="" type="checkbox"/>	GRAD <input type="checkbox"/>	SCI <input type="checkbox"/>
5 test for low trump	6 advances counter	7	8	9 test for del. >, <, or =	3 lowest card	1 <input type="checkbox"/> <input checked="" type="checkbox"/>	RAD <input type="checkbox"/>	ENG <input type="checkbox"/>
						2 <input type="checkbox"/> <input checked="" type="checkbox"/>		n <u>1</u>
						3 <input type="checkbox"/> <input checked="" type="checkbox"/>		

PINOCHLE IV

1

CALC. LEAD

PLAYER'S CARD

SCORE

2

[illegible]

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
001	* F LBL A	31 25 11	The calculator leads his highest card. This routine finds that card, interprets it, deletes it from its hand, and displays it.		F	61	points are added to the trick winners hand. R7 determines if the calculator or the player gets the points.
	h CF 0	35 61 00			8	08	
	3	03			-	51	
	h STL	35 33		060	2	02	
	0	00			X	71	
	STO 0	33 00			RCL 7	34 07	player's card is interpreted and checked to see if it is trump. If it is, transfer occurs.
	STO 7	33 07			÷	81	
	F GSB 9	31 22 09			STO + 8	33 61 08	
	RCL 7	34 07			R/S	84	
010	1	01			* F LBL C	31 25 13	
	0	00			5	05	If player's card is not trump it is tested to see if it is the same suite as the calculator's.
	÷	81			-	51	
	STO 9	33 09			F INT	31 83	
	5	05		070	STO B	33 12	
	+	61			h LSTX	35 82	the calculator wins when the program executes these steps
	F -X-	31 84	this routine finds a card, and checks to see if it is the highest card. If flag 0 is set a test for deleting a card occurs.		9 FRAC	32 83	
	3	03			STO C	33 13	
	h STL	35 33			RCL A	34 11	
	0	00			1	01	
020	STO 0	33 00			0	00	
	h SF 0	35 51 00			÷	81	player wins
	F GSB 9	31 22 09			3 X=Y	32 51	
	h CF 0	35 61 00			GTO 2	22 02	
	CLX	44		080	h RV	35 53	
	R/S	84			RCL 9	34 09	
	* F LBL 9	31 25 09	this routine advances the card counter		9 FRAC	32 83	If the player laid trump and the calculator didn't the player wins.
	RCL 7	34 07			9 X=Y	32 51	
	RCL (7)	34 24			GTO 3	22 03	
	RCL 0	34 00			* F LBL 0	31 25 00	
030	9 10*	32 53			EEX	43	If the calc. & player laid the same suite this tests to see who won the trick
	X	71			4	04	
	9 FRAC	32 83			STO 7	33 07	
	EEX	43			GTO 4	22 04	
	2	02		090	* F LBL 1	31 25 01	this routine, in conjunction with LBL 9, deletes the calculator's card.
	X	71			1	01	
	F INT	31 83			STO 7	33 07	
	h F? 0	35 71 00			GTO 4	22 04	
	GTO 5	22 05			* F LBL 2	31 25 02	If the player laid trump and the calculator didn't the player wins.
	9 X>Y	32 81			RCL 9	34 09	
040	STO 7	33 07			9 FRAC	32 83	
	* F LBL 6	31 25 06			9 X≠Y	32 61	
	2	02			GTO 1	22 01	
	STO + 0	33 61 00	this routine advances the card counter		* F LBL 3	31 25 03	this routine, in conjunction with LBL 9, deletes the calculator's card.
	RCL 0	34 00		100	RCL B	34 12	
	8	08			RCL 9	34 09	
	9 X≠Y	32 61			9 X≤Y	32 71	
	GTO 9	22 09			GTO 1	22 01	
	0	00			GTO 0	22 00	this routine, in conjunction with LBL 9, deletes the calculator's card.
	STO 0	33 00			* F LBL 5	31 25 05	
050	F DSZ	31 33			RCL 7	34 07	
	GTO 9	22 09			9 X≠Y	32 61	
	h RTN	35 22			GTO 6	22 06	
	* F LBL 4	31 25 04			EEX	43	
	RCL 9	34 09		110	2	02	
	F INT	31 83			÷	81	
	RCL B	34 12			RCL 0	34 00	

REGISTERS								
0 card counter	1 calculator's	2 calculator's	3 cards	4 player's	5 player's	6 cards	7 used	8 score
S0	S1	S2	S3	S4	S5	S6	S7	S8
A trump	B player's card value (A, K, Q, J, 10, 9)	C player's card suite (♠, ♡, ♢, ♣)	D	E	I used			

[illegible]

LABELS					FLAGS	SET STATUS		
A CALC. LEAD	B	C PLAYER'S CARD	D	E SCORE	0 delete card	FLAGS	TRIG	DISP
a	b	c	d	e	1	ON OFF		
0 calculator wins	1 player wins	2 test if calc fair trump	3 who won the trick	4 adds score	2	0 <input type="checkbox"/> <input checked="" type="checkbox"/>	DEG <input checked="" type="checkbox"/>	FIX <input checked="" type="checkbox"/>
						1 <input type="checkbox"/> <input checked="" type="checkbox"/>	GRAD <input type="checkbox"/>	SCI <input type="checkbox"/>
						2 <input type="checkbox"/> <input checked="" type="checkbox"/>	RAD <input type="checkbox"/>	ENG <input type="checkbox"/>
5 deletes card	6 card counter advancer	7	8	9 finds highest cards	3	3 <input type="checkbox"/> <input checked="" type="checkbox"/>		n <u>1</u>