

00363 PROGRAM DESCRIPTION I

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Program Title The Step Game
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Program Description, Equations, Variables You and the HP start at extreme opposite ends of the display, you at the right end (at position 10), indicated by you symbol (\neq , the "not equals" sign), and the HP on the left, at position 1, indicated by his symbol ($>$, the "greater than" sign). Moves are 1 to 2 steps forward, or 1 step backward. A forward move is one away from your end of the display; a backward move is one going towards your end of the display. The object of the game is to force an opponent back to his end of the display in such a way that he cannot move anymore. A player may not move forward if there is only one space or position separating him and his opponent; he may not move backward if there is no space behind him to move to. You make the first move, and you and the HP alternate. Remember, a player who cannot move loses the game.

Necessary Accessories Card reader, One memory module

Operating Limits and Warnings If you wish to move to position 10, you must key in 10 and not 0, although the display displays position 10 as a 0.

Reference(s) _____

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 judgment of the program material and without reliance upon any representation or description concerning the program material.

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Sample Problem (Sketch if Desired)

1. Sample problem in which you lose.

Note: >23456789# is the initial display configuration
 1234567>9# means you lose the game.
 >2#4567890 means HP loses the game.

2. Sample problem in which you win. (Like in some things in life, it is possible for you to win at this game.)

SOLUTION:

Input	Function	Display	Comments
1	(USER)		
	(XEQ) SIZE 028		
	(///) (A)	DATA CRD PLS.	Data card prompt
Data card side	and 2	>23456789#	Initial display configuration.
8	(B)	>234567#90	
	(C)	12>4567#90	
6	(B)	12>45#7890	
	(C)	123>5#7890	You have to retreat
7	(B)	123>56#890	
	(C)	1234>6#890	HP gives chase.
8	(B)	1234>67#90	
	(C)	12345>7#90	
9	(B)	12345>78#0	
	(C)	123456>8#0	
10	(B)	123456>89#	You're trapped
	(C)	1234567>9#	You lose.
2	(A)	>23456789#	
9	(B)	>2345678#0	
	(C)	12>45678#0	
8	(B)	12>4567#90	
	(C)	1>34567#90	HP is on the run!
7	(B)	1>3456#890	
	(C)	>23456#890	HP appears cornered!
6	(B)	>2345#7890	
	(C)	1>345#7890	Looks like a fight.
4	(B)	1>3#567890	Last nail in the coffin.
	(C)	>23#567890	
3	(B)	>2#4567890	Man beats machine again.

00363C USER INSTRUCTIONS

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SIZE:
(HP-41C) Ø28

STEP	INSTRUCTIONS	INPUT	FUNCTION	DISPLAY
1	Enter the program, check status and set USER mode			
2	Initialize		(///) (A)	DATA CRD PLS.
3	Enter data card sides 1 and 2			
4	Initial display configuration			>23456789/
	"/" is your symbol located at position 1Ø			
	">" is HP's symbol at position 1			
5	Your move			
	Press the number (#) of the position you wish to move to.* Display changes			
	to indicate your new position	#	(B)	New position
6	HP's move			
	Press the key to indicate HP's new position		(C)	New position
7	Alternate moves (steps 5 and 6) until you or HP cannot move.			
	>2/456789Ø means HP has lost			
	1234567>9/ means you have lost			
8	For a new game, press (A) and go to step 4.			
	*You may not move forward if there is only 1 space separating you and HP, eg			
	123>5/789Ø and it is your turn. Position 1Ø is indicated by a Ø in display			
	but you must key in 1Ø as your # if you wish to move here.			

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STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS	STEP/ LINE	KEY ENTRY	KEY CODE (67/97 only)	COMMENTS
01	*LBL "STEPGAM"			51	GTO 04		
	*LBL a		Initialize.		*LBL 05		
	004.027				CF 01		
	"DATA CRD PLS."				RCL 02		Test if your posi-
	AVIEW				XEQ D		tion is odd or even
	RDTAX				EC? 01		if even, HP moves 2
	*LBL A		New game		GTO 11		steps fwd; if odd 1
	FIX 0				-1		step back
	0				GTO 01		
10	STO 01		You start at Posi-	60	*LBL 04		
	10		tion 10		CF 01		
	STO 02				RCL 02		Test if you have
	1				6		reached 6th position
	STO 03				X<Y		if yes, HP 1 step fwd
	*LBL 07				X=Y?		if no, test if your
	1				GTO 07		position odd or even
	*LBL 01				XEQ D		
	RCL 01				ES? 01		
	+				GTO 11		If odd, HP moves 2
20	STO 01		Your move	70	-1		steps fwd, even, 1
	CF 01				GTO 01		step back
	GTO 10				*LBL D		
	*LBL B		HP's move		2		
	STO 02				7		Odd-even test
	GTO 10				INT		
	*LBL C				LAST X		
	1				X=Y?		
	ST- 03				SF 01		If odd, set flag 1 on
	RCL 03		Test if this is		RTN		if even, leave it off
30	X=0?		HP's first move	80	*LBL 11		
	GTO 03		If no, go to stra-		2		
	2		tegy; if yes, move		GTO 01		
	GTO 01		fwd. 2 steps		*LBL 10		
	*LBL 03				*LBL "DISPLAY"		Display genera-
	RCL 02				CLA		tion routine.
	RCL 01				5		
	-		Test if dist. bet		RCL 02		
	4		2 players is w/in		X>Y?		
	X<=Y?		4 positions; if yes		GTO "Y>5X<=5"		
40	GTO 06		test if dist. is	90	3		
	X<Y		odd or even, if no,		RCL 01		Display generation
	XEQ D		go to strategy LBL	06	X=Y?		for Your Position
	1				GTO "X=3 Y=5"		Less than or Equal
	FC? 01				RCL 01		to 5 and HP less
	CHS		If odd, Hp moves 1		1		than or equal to
	GTO 01		step back; if even,		-		3
	*LBL 06		move 1 step fwd.		2		
	RCL 03				*		
	XEQ D		Test if HP's turn is,		RCL 02		
50	FS? 01		odd or even; if odd,	100	+		
			go to strategy LBL 04,				
			if even, strategy LBL 05				

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REGISTERS, STATUS, FLAGS, ASSIGNMENTS

[illegible]

THE STEP GAME

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PROGRAM NUMBER: 00363C

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PROGRAM REGISTERS NEEDED: 49

ROW 1 (1 - 2)



ROW 2 (3 - 4)



ROW 3 (4 - 7)



ROW 4 (8 - 18)



ROW 5 (19 - 26)



ROW 6 (27 - 36)



ROW 7 (37 - 45)



ROW 8 (46 - 53)



ROW 9 (53 - 59)



ROW 10 (60 - 68)



ROW 11 (68 - 76)



ROW 12 (77 - 84)



ROW 13 (84 - 89)



ROW 14 (89 - 93)



ROW 15 (93 - 100)



ROW 16 (101 - 106)



ROW 17 (106 - 110)



ROW 18 (110 - 111)



ROW 19 (112 - 113)



ROW 20 (113 - 117)



ROW 21 (117 - 123)



ROW 22 (123 - 127)



ROW 23 (127 - 134)



ROW 24 (135 - 138)



ROW 25 (138 - 142)



ROW 26 (142 - 146)

