

Program Title NOUGHTS AND CROSSES

Contributor's Name Zvi Schreiber

Address

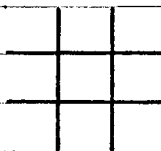
City

State Israel

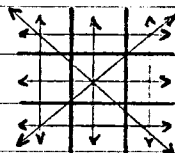
Zip Code

Program Description, Equations, Variables

The game Noughts and Crosses is played with two players; one writes Noughts, the other Crosses. Normally you draw on some paper nine squares like this:



Player one and two take it in turns to write a Nought or Cross in any of the nine squares. The intention of the game is to get a line of Noughts or Crosses. There are eight lines possible to fill in any of the following ways:



There are names for each one (on this program) which are the same as

~~Operating Limits and Warnings~~ the keyboard below. For example Player One puts a Cross in the middle by pressing 5 B.

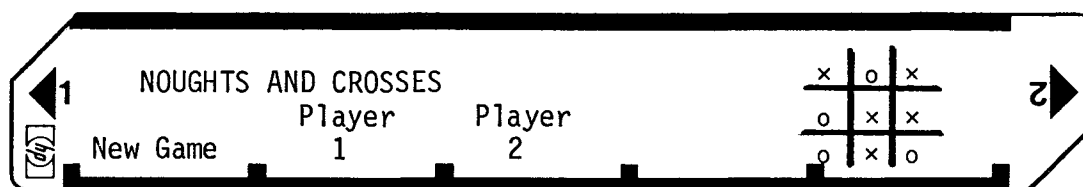
7	8	9
4	5	6
1	2	3

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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01884D User Instructions

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STEP	INSTRUCTIONS	INPUT DATA/UNITS	KEYS	OUTPUT DATA/UNITS
1	Load side 1 and 2		<input type="text"/> <input type="text"/>	
2	INITIALIZE (A must be pressed in between two games).		A <input type="text"/>	0.000
3	Player 1 puts in the place he wants to put his Cross (1-9).	space name	B <input type="text"/>	
4	Player 2 puts in the place he wants to put his Nought (1-9).	space name	C <input type="text"/>	
	(Then Player 1; then Player 2 exit)		<input type="text"/> <input type="text"/>	
	WARNINGS:		<input type="text"/> <input type="text"/>	
	If Player 1 or 2 tries to put a Nought or Cross in a space less than 1 or more than 9 ERROR is shown.		<input type="text"/> <input type="text"/>	
	If it's not your go 0.000 will flash (or if Player 2 starts).		<input type="text"/> <input type="text"/>	
	If you try to put a Nought or Cross in a space with a Nought or Cross in it the number you put in will flash.		<input type="text"/> <input type="text"/>	
	AFTER ALL OF THESE PRESS R/S AND START YOUR TURN AGAIN		<input type="text"/> <input type="text"/>	
5	If some time after pressing B or C the program stops showing 1.??? or 2.??? then someone has won. If it's 1.??? Player 1 has won! If you see 2.??? Player 2 has won! If for instance it stops with 2.852 in the display Player 2 has won and he has a Nought in place 8,5 and 2.		<input type="text"/> <input type="text"/>	

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS		
001	001 *LBL6	21 06		057	4	04			
	002 0	00	Show "ERROR"	058	ST01	35 45			
	003 =	-24		059	*LBL0	21 00			
	004 *LBL5	21 05	Prepare for a 0	060	RCL7	36 07	RCL a row		
	005 CLX	-51	Flashing ERROR	061	RCL4	36 04	Put it in x, y, z,		
	006 XZY	-41		062	RCL1	36 01			
	007 CLX	-51		063	.	-62			
	008 *LBL3	21 03	Prepare for flashing	064	7	07	ST0 the row		
	009 R4	-31	ERROR (0-9)	065	4	04	name in R ₀		
010	010 *LBL4	21 04		066	1	01			
	011 PSE	16 51	Flashing ERROR	067	ST00	35 00			
	012 GT04	22 04		068	R4	-31	Add up the row		
	013 *LBLA	21 11	CL Reg	069	+	-55			
	014 CF0	16 22 00	CL Stack	070	+	-55			
	015 SF1	16 21 01	CF 0	071	1	01	GTO 1 if it makes		
	016 CLR6	16-53	SF 1	072	2	02	12		
	017 CLX	-51		073	XZY	-41	GTO 2 if it makes		
	018 ENT↑	-21		074	X=Y?	16-33	3		
	019 ENT↑	-21		075	GT01	22 01			
020	020 ENT↑	-21		076	3	03			
	021 RTN	24		077	X=Y?	16-33			
	022 *LBLB	21 12	If your number is	078	GT02	22 02			
	023 9	09	more than 9 (GTO)	079	RCL8	36 08	The comments here		
	024 XZY	-41	ERROR	080	RCL5	36 05	are the same as		
	025 XZY?	16-34		081	RCL2	36 02	above.		
	026 GT06	22 06		082	.	-62			
	027 ST01	35 46	If somebody has used	083	8	08			
	028 RCL1	36 45	that place GTO	084	5	05			
	029 X#0?	16-42	flashing ERROR	085	2	02			
030	030 GT03	22 03		086	ST00	35 00	All this could be		
	031 R4	-31	If you put in 0	087	R4	-31	done with a sub-		
	032 X=0?	16-43	stop showing ERROR	088	+	-55	routine but this		
	033 =	-24		089	+	-55	way is quicker.		
	034 F0?	16 23 00	If it's not your	090	1	01			
	035 GT05	22 05	turn GTO to 0 flashing	091	2	02			
	036 SF0	16 21 00	Tell the flags that	092	X=Y?	16-33			
	037 CF1	16 22 01	you have had a go	093	GT01	22 01			
	038 1	01		094	XZY	-41			
	039 ST01	35 45		095	3	03			
040	040 GT00	22 00	Check who wins	096	X=Y?	16-33			
	041 *LBLC	21 13		097	GT02	22 02			
	042 9	09	If your number is	098	RCL9	36 09			
	043 XZY	-41	more than 9 (GTO)	099	RCL6	36 06			
	044 XZY?	16-34	ERROR	100	RCL3	36 03			
	045 GT06	22 06		101	.	-62			
	046 ST01	35 46	If somebody has used	102	9	09			
	047 RCL1	36 45	that place GTO	103	6	06			
	048 X#0?	16-42	flashing ERROR	104	3	03			
	049 GT03	22 03		105	ST00	35 00			
050	050 R4	-31	If you put in 0 stop	106	R4	-31			
	051 X=0?	16-43	showing ERROR	107	+	-55			
	052 =	-24		108	+	-55			
	053 F1?	16 23 01	If it's not your	109	1	01			
	054 GT05	22 05	turn GTO 0 flashing	110	2	02			
	055 SF1	16 21 01	Tell the flags that	111	X=Y?	16-33			
	056 CF0	16 22 00	you have had a go	112	GT01	22 01			
REGISTERS									
0 last row	1 used	2 used	3 used	4 used	5 used	6 used	7 used	8 used	9 used
S0 tested?	S1	S2	S3	S4	S5	S6	S7	S8	S9
A	B	C	D	E	I	temporary stores			

01884D Program Listing II

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STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
113	XZY	-41		169	XZY	-41	
114	3	03		170	1	01	
115	X=Y?	16-33		171	2	02	
116	GT02	22 02		172	X=Y?	16-33	
117	RCL7	36 07		173	GT01	22 01	
118	RCL8	36 08		174	RCL7	36 07	
119	RCL9	36 09		175	RCL5	36 05	
120	.	-62		176	RCL3	36 03	
121	7	07		177	.	-62	
122	8	08		178	7	07	
123	9	09		179	5	05	
124	ST00	35 00		180	3	03	
125	R↓	-31		181	ST00	35 00	
126	+	-55		182	R↓	-31	
127	+	-55		183	+	-55	
128	1	01		184	+	-55	
129	2	02		185	3	03	
130	X=Y?	16-33		186	X=Y?	16-33	
131	GT01	22 01		187	GT02	22 02	
132	XZY	-41		188	XZY	-41	
133	3	03		189	1	01	
134	X=Y?	16-33		190	2	02	
135	GT02	22 02		191	X=Y?	16-33	
136	RCL4	36 04		192	GT01	22 01	
137	RCL5	36 05		193	RCL9	36 09	
138	RCL6	36 06		194	RCL5	36 05	
139	.	-62		195	RCL1	36 01	
140	4	04		196	.	-62	
141	5	05		197	9	09	
142	6	06		198	5	05	
143	ST00	35 00		199	1	01	
144	R↓	-31		200	ST00	35 00	
145	+	-55		201	R↓	-31	
146	+	-55		202	+	-55	
147	3	03		203	+	-55	
148	X=Y?	16-33		204	3	03	
149	GT02	22 02		205	X=Y?	16-33	
150	XZY	-41		206	GT02	22 02	
151	1	01		207	R↓	-31	
152	2	02		208	1	01	
153	X=Y?	16-33		209	2	02	
154	GT01	22 01		210	X=Y?	16-33	
155	RCL1	36 01		211	GT01	22 01	
156	RCL2	36 02		212	CLX	-51	
157	RCL3	36 03		213	RTN	24	
158	.	-62		214	*LBL1	21 01	
159	1	01		215	2	02	
160	2	02		216	GT07	22 07	
161	3	03		217	*LBL2	21 02	
162	ST00	35 00		218	1	01	
163	R↓	-31		219	*LBL7	21 07	
164	+	-55		220	RCL0	36 00	
165	+	-55		221	+	-55	
166	3	03		222	RTN	24	
167	X=Y?	16-33		223	R/S	51	
168	GT02	22 02					

Stop showing 0.000

GT0 2 with 2 in display

GT0 7 with 1 in display

Add the winner number with the row he won and stop

LABELS					FLAGS	SET STATUS		
A	B	C	D	E	0	FLAGS	TRIG	DISP
New game	P1 puts X	P2 puts 0			P1's trn	ON OFF		
a	b	c	d	e	1 P2's trn	0 <input type="checkbox"/> <input checked="" type="checkbox"/>	DEG <input type="checkbox"/>	FIX <input checked="" type="checkbox"/>
0 ck winner	1 P1 wins	2 P2 wins	3 ERROR	4 ERROR	2	1 <input type="checkbox"/> <input checked="" type="checkbox"/>	GRAD <input type="checkbox"/>	SCI <input type="checkbox"/>
5 ERROR	6 ERROR	7 Which Line	8	9	3	2 <input type="checkbox"/> <input checked="" type="checkbox"/>	RAD <input type="checkbox"/>	ENG <input type="checkbox"/>
						3 <input type="checkbox"/> <input type="checkbox"/>		n <u>3</u>