

Program Description I

Program Title JOTTO 2

Contributor's Name Larry Schneider

Address 1001 Provincial Tower 34 S. Main St.

City Wilkes-Barre State Pa. Zip Code 18701

Program Description, Equations, Variables This program plays JOTTO, a game in which the computer selects a 5 Letter word (composed of 5 unique Letters) and the player attempts to determine it by inputting his own 5 Letter words (again, No repeated Letters) and being told the number of Letters in common between his guess and the computer's word. As an example, suppose the computer's word is SCORE, If you input BEAST, you would find that there were two letters in common (the "S" and the "E"). In the computer's words (and your words), two digits correspond to each letter. The code used is: A=01, B=02, C=03, ..., X=24, Y=25, Z=26. However, an alpha numeric decoder is used in this program to simplify input. ALL the user-defined buttons have 3 Letters associated with them. To specify the first letter in a triplet, you simply hit the appropriate button. To get the second or third letter, you first hit the "shift" button (E) once or twice respectively and then hit the "Letter" button. Use of these buttons are fully explained in the instructions.

Operating Limits and Warnings To win, you must guess the computer's word using no more than 10 guesses of your own (OVERFLOW OCCURS AFTER THE 10th guess signalling a LOSS... Adjustments can be made to allow for 15 guesses). On the last page of these instructions is a List of 200 sample words for this game (used by the computer). They will fully occupy 8 magnetic data cards.

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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00734D Program Description II

Sketch(es) FOR THE EXAMPLE BELOW, ASSUME THAT DATA CARD 3 HAS BEEN READ IN ALONG WITH THE PROGRAM (see PAGE 6).

Sample Problem(s) Input seed and Initialize: .123456789 h RTN R/S

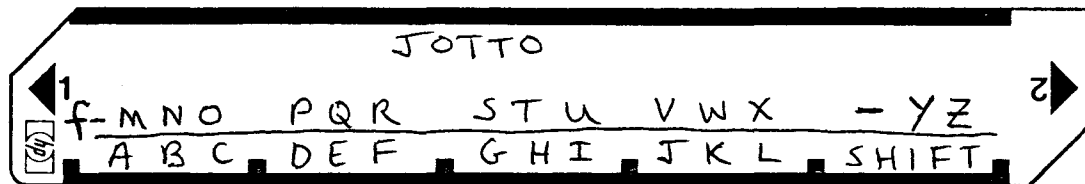
Guess	Keys Pressed	# common Letters
①	CARTS EEA A EEfb Efc fc R/S	2
②	DARTS 1 fe B R/S (changes 1 st Letter of Last word to "D")	3
③	CARDS 4.1 fe B R/S (changes 4 th Letter of 1 st word to "D")	3
④	WORDS Efa EEfa EEfb E (oops! I didn't mean to hit the shift) - clear shift: R/S ; continue: B fc R/S	2
⑤	DRAFT B EEfb A EE B Efc R/S	2
⑥	SHADE fc EC A fb (oops! I meant to hit B not fb) - restart: E E E fc EC A B EB R/S	4
⑦	SPADE 2 fe fb R/S (changes 2 nd Letter of Last word to "P")	3
⑧	HANDS EC A Efa B fc R/S	4
⑨	SHADY 5.6 fe Efe R/S (changes 5 th Letter of 6 th word to "Y") WE WIN!!	

Solution(s)

Reference(s)

00734D

User Instructions



STEP	INSTRUCTIONS	INPUT DATA/UNITS	KEYS	OUTPUT DATA/UNITS
1	Read in sides 1 and 2 of JOTTO		<input type="checkbox"/> <input type="checkbox"/>	
2	Read in sides 1 and 2 of WORD CARD (SEE PAGE 6)		<input type="checkbox"/> <input type="checkbox"/>	
3	Input a seed Between 0 and 1 and initialize	SEED	<input type="checkbox"/> h <input type="checkbox"/> RTN	
			<input type="checkbox"/> R/S <input type="checkbox"/>	0.
4	To form a word: Hit the shift button (E) 0, 1, or 2 times. Then hit the appropriate button for the letter you wish - Once a letter button is pressed, the SHIFT is RESET to 1.		<input type="checkbox"/> <input type="checkbox"/>	
5	To clear the guess code and completely Reform a word:		<input type="checkbox"/> E <input type="checkbox"/> E	
			<input type="checkbox"/> E <input type="checkbox"/>	0.
6	To Reset the shift to 1. after accidentally hitting it -		<input type="checkbox"/> R/S <input type="checkbox"/>	
7	To Change the N th Letter of your LAST guess to form a new word: followed by the new letter (step 4)	N	<input type="checkbox"/> f <input type="checkbox"/> e	
8	To Change the N th Letter of your M th guess to form a new word: followed by the new letter (step 4)	N, M	<input type="checkbox"/> f <input type="checkbox"/> e	
9	Once the word you want is in the display, do a common letter check:		<input type="checkbox"/> R/S <input type="checkbox"/>	# COMMON LETTERS YOUR GUESS
10	For another game go to step 2		<input type="checkbox"/> <input type="checkbox"/>	
11	ALL word guesses are kept in secondary registers 5, 6, 7, 8, 9 and A, B, C, D, E. The computer's word is kept in Primary register 9.		<input type="checkbox"/> <input type="checkbox"/>	
TO ADJUST PROGRAM TO ALLOW 15 guesses instead of 10:				
①	Delete step 034 04		WORD GUESSES ARE NOW KEPT IN SECONDARY REGISTERS 0 to 9 and A, B, C, D, E. Input data/units for step 8 above should be N, MM (N.01 to N.13).	
②	Change step 033 01 to 033 09 (9)			
③	Change step 187 01 to 187 43 (EEX)			
④	Change step 188 00 to 188 02 (2)			
⑤	Delete step 191 04			
⑥	Change step 190 01 to 190 09 (9)			

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
001	9	09			f LBL B	31 25 12	DEF
	9	09			2	02	
	7	07			GTO 4	22 04	
	X	71		060	f LBL C	31 25 13	GHI
	g frac	32 83	Random number		3	03	
	2	02			GTO 4	22 04	
	5	05			f LBL D	31 25 14	JKL
	X	71			4	04	
	h STI	35 33			GTO 4	22 04	
010	RCL(i)	34 24	Random word		g LBL a	32 25 11	MNO
	f CL Reg	31 43			5	05	
	f PHS	31 42			GTO 4	22 04	
	STO 9	33 09			g LBL b	32 25 12	PQR
	EEX	43		070	6	06	
	1	01			GTO 4	22 04	
	0	00			g LBL c	32 25 13	STU
	=	81			7	07	
	STO 0	33 00			GTO 4	22 04	
	5	05			g LBL d	32 25 14	VWX
020	h STI	35 33			8	08	
	f LBL 1	31 25 01	STORE LETTERS OF		GTO 4	22 04	
	RCL 0	34 00	COMPUTER WORD		g LBL e	32 25 15	-YZ
	EEX	43	IN R1, R2, R3, R4, R5		9	09	
	2	02		080	h SF 2	35 51 02	
	X	71			f LBL 4	31 25 04	
	g frac	32 83			3	03	
	STO 0	33 00			X	71	
	h LSTX	35 82			3	03	
	f INT	31 83			-	51	
030	STO(i)	33 24			h RCI	35 34	Letter code
	f DSZ	31 33			+	61	
	GTO 1	22 01			h STI	35 33	
	1	01	R.E POINTS TO		2	02	
	4	04	WHERE YOUR CURRENT	090	5	05	
	STO E	33 15	GUESS IS STORED		g X=y	32 51	change letter of
	f GSB 0	31 22 00	Reset		GTO 9	22 09	previous guess
	R/S	84			h F2 2	35 71 02	
	f LBL E	31 25 15	SHIFT		f DSZ	31 33	Y=25, Z=26
	3	03			h RCI	35 34	
040	f ISZ	31 34			h F? 1	35 71 01	replace letter of
	h RCI	35 34			GTO 5	22 05	previous guess
	g X=y	32 81	Clear and Reset		RCL 6	34 06	Position new
	GTO 0	22 00	after 3 SHIFTS		g 10X	32 53	letter in guess
	h RTN	35 22		100	X	71	
	GTO 6	22 06	Reset SHIFT to 1.		STO + 0	33 61 00	
	f LBL 0	31 25 00	RESET		2	02	
	8	08	Positioning constant		STO - 6	33 51 06	
	STO 6	33 06			f LBL 6	31 25 06	Reset SHIFT
	1	01			1	01	
050	h STI	35 33	SHIFT		h STI	35 33	
	0	00	Guess		RCL 0	34 00	
	STO 0	33 00			R/S	84	
	h RTN	35 22			RCL E	34 15	common letter
	f LBL A	31 25 11	ABC	110	1	01	check
	1	01			+	61	
	GTO 4	22 04			STO E	33 15	

REGISTERS

0 CURRENT GUESS	1 Computer Letter 5	2 4	3 3	4 2	5 1	6 Guessed wrong letter	7 # common letters	8 Current Guess	9 COMPUTER WORD
S0 Guess 1 out of 15 1/15	S1 2/15	S2 3/15	S3 4/15	S4 5/15	S5 Guess 1 out of 10 1/10 (6/15)	S6 2/10 (7/15)	S7 3/10 (8/15)	S8 4/10 (9/15)	S9 5/10 (10/15)
A 6/10 (11/15)	B 7/10 (12/15)	C 8/10 (13/15)	D 9/10 (14/15)	E Guess Pointer 10/10 (15/15)	I SHIFT/USED				

STEP	KEY ENTRY	KEY CODE	COMMENTS	STEP	KEY ENTRY	KEY CODE	COMMENTS
	h ST I	35 33			G TOL I	22 24	
	h R↓	35 53		170	F LBL 9	31 25 09	Change letter in previous guess
	STO (i)	33 24	Store Guess		h CF 2	35 61 02	
	STO 8	33 08			5	05	
	RCL 9	34 09	A win?		h R↑	35 54	
	g X=y	32 51	Yes - Blink Display		ENTER↑	41	
	GTO 6	22 06			g frac	32 83	
120	h R↓	35 53			h R↓	35 53	Number of letter
	EEX	43			F INT	31 83	
	1	01			-	51	
	0	00			2	02	
	÷	81		180	X	71	
	STO 0	33 00			g 10 ^x	32 53	
	0	00			STO 7	33 07	positioning constant
	STO 7	33 07			EEX	43	
	F LBL 7	31 25 07			2	02	
	RCL 0	34 00			X	71	
130	F X=0	31 51	Finished checking?		STO 6	33 06	
	GTO 8	22 08	Yes		h R↑	35 54	
	EEX	43			1	01	
	2	02			0	00	
	X	71		190	X	71	Number of word
	g frac	32 83			1	01	
	STO 0	33 00			4	04	
	h LST X	35 82			+	61	ITS LOCATION
	F INT	31 83			h LST X	35 82	
	STO 6	33 06	1 letter from guess word		h X=y	35 52	
140	5	05			g X=y	32 51	LAST WORD?
	h ST I	35 33			RCL E	34 15	Yes
	F LBL 2	31 25 02	Compare it with Computer letters		h ST I	35 33	
	RCL (i)	34 24			RCL (i)	34 24	
	RCL 6	34 06		200	RCL 6	34 06	
	g X=y	32 51			÷	81	
	GTO 4	22 04	A MATCH!		g frac	32 83	
	1	01	1 more common letter		EEX	43	
	STO + 7	33 61 07			2	02	
	GTO 7	22 07			X	71	
150	F LBL 4	31 25 04			F INT	31 83	Letter to be changed
	F DSZ	31 33			RCL 7	34 07	positioning constant
	GTO 2	22 02			X	71	
	GTO 7	22 07			RCL (i)	34 24	
	F LBL 8	31 25 08		210	h X=y	35 52	
	F GSB 0	31 22 00	Reset		-	51	Clear letter from word
	RCL 7	34 07	# of common letters		h SF 1	35 51 01	
	F -X-	31 84			F GSB 0	31 22 00	Reset
	RCL 8	34 08	Guess		h R↑	35 54	
	RCL E	34 15			STO 0	33 00	
160	h N!	35 81	Overflow if you lose		h RTN	35 22	
	h R↓	35 53			F LBL 5	31 25 05	Replace letter in guess
	R/S	84			h CF 1	35 61 01	
	F LBL 6	31 25 06	Blinking Display signals		RCL 7	34 07	
	1	01		220	X	71	
	CHS	42			STO + 0	33 61 00	Reset shift.
	h ST I	35 33			GTO 6	22 06	
	h R↓	35 53					
	h Pause	35 72					

LABELS					FLAGS	SET STATUS			
A	B	C	D	E	0	FLAGS		TRIG	DISP
ABC	DEF	GHI	JKL	SHIFT		ON OFF		DEG <input checked="" type="checkbox"/>	FIX <input checked="" type="checkbox"/>
a	MNO	PQR	d	e	1 ON - REPLACE LETTER	0	<input type="checkbox"/> <input checked="" type="checkbox"/>	GRAD <input type="checkbox"/>	SCI <input type="checkbox"/>
0	✓	✓	3	4	2 ON - SET Y=25 Z=26	1	<input type="checkbox"/> <input checked="" type="checkbox"/>	RAD <input type="checkbox"/>	ENG <input type="checkbox"/>
5	✓	✓	8	9	3	2	<input type="checkbox"/> <input checked="" type="checkbox"/>		n <u>0</u>
						3	<input type="checkbox"/> <input checked="" type="checkbox"/>		